

FIG. 1A APPLICATION OF NO VOLTAGE

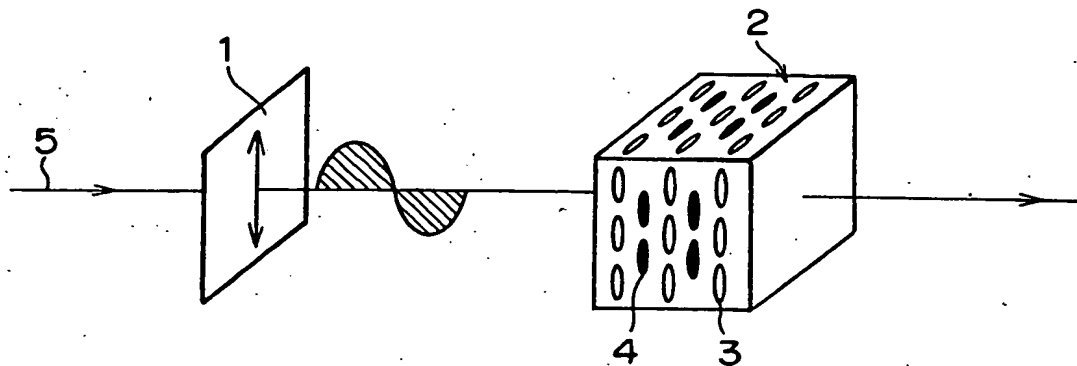


FIG. 1B APPLICATION OF VOLTAGE

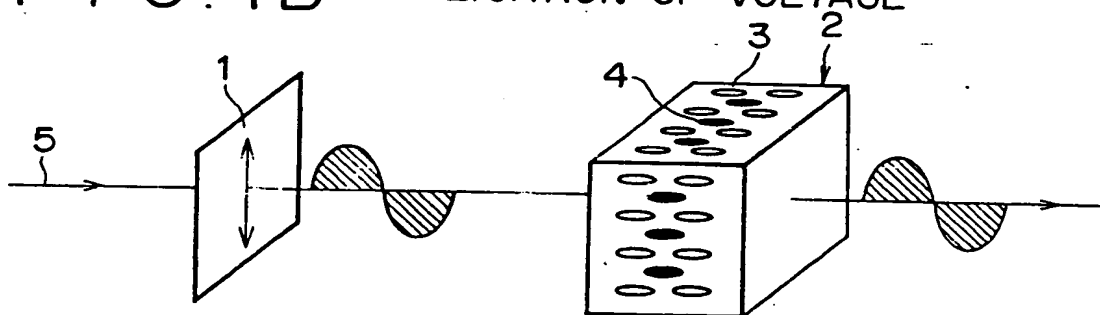


FIG. 1C DRIVE WAVEFORM OF RECTANGULAR WAVE

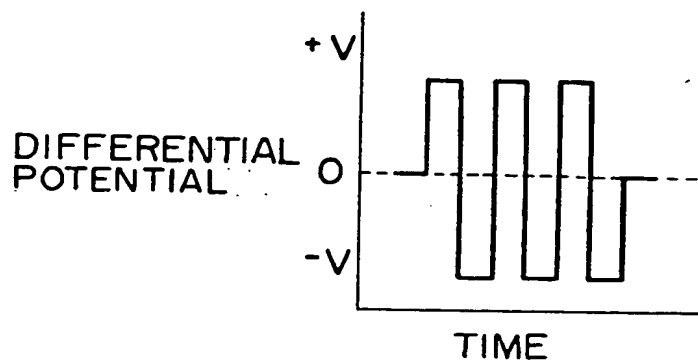


FIG. 2A

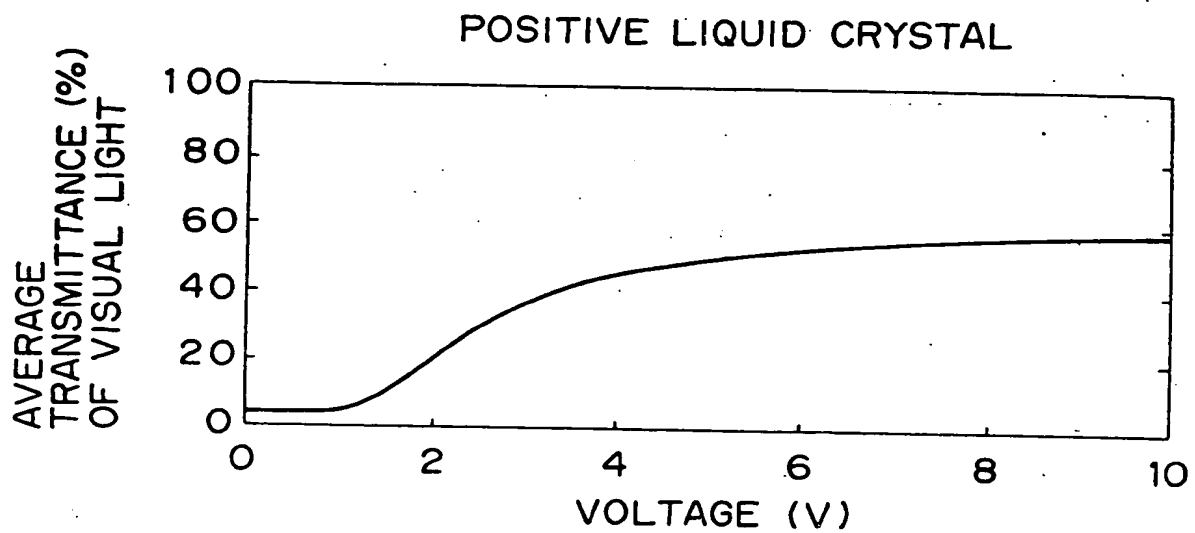


FIG. 2B

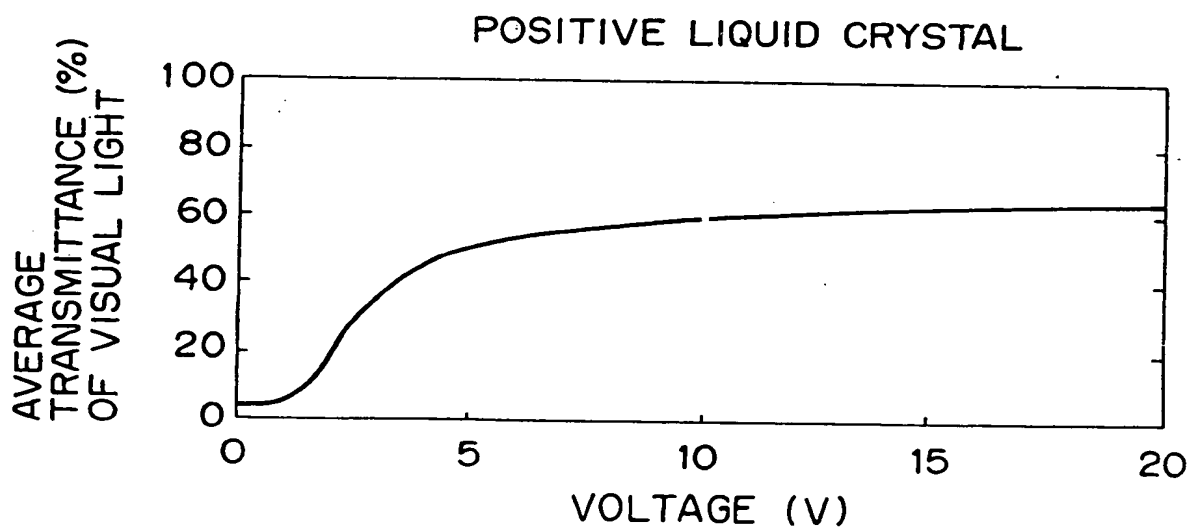


FIG. 3A  
APPLICATION OF NO VOLTAGE

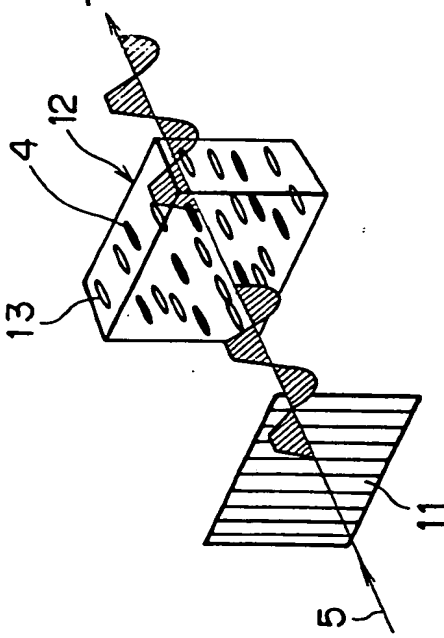


FIG. 3B  
APPLICATION OF VOLTAGE

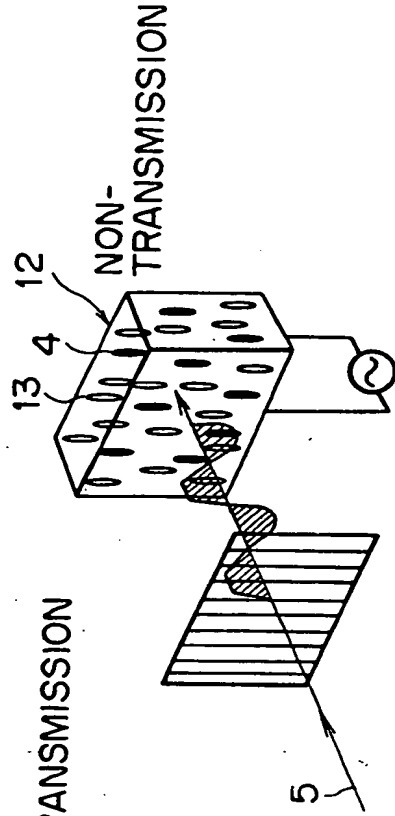


FIG. 3C DRIVE WAVEFORM OF  
RECTANGULAR WAVE

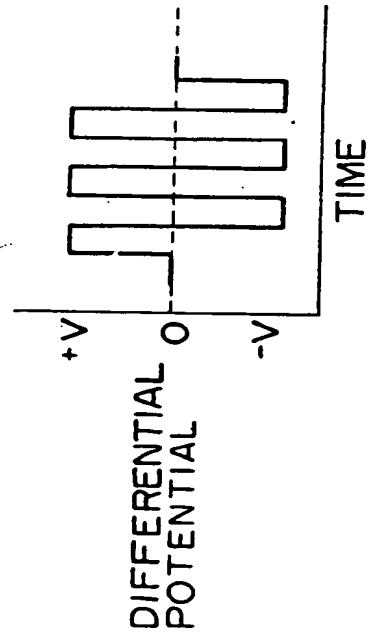


FIG. 4A

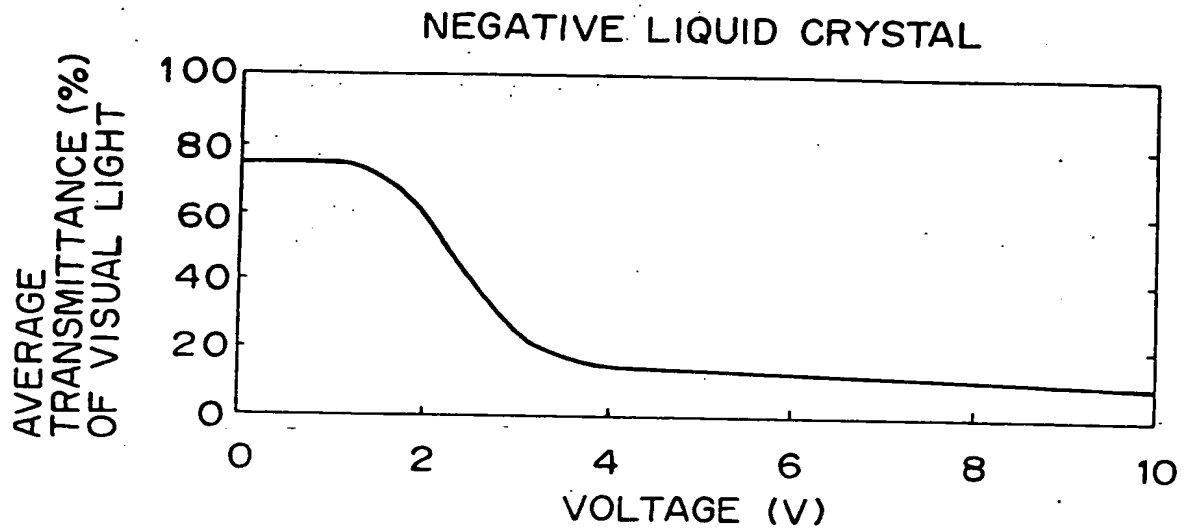


FIG. 4B

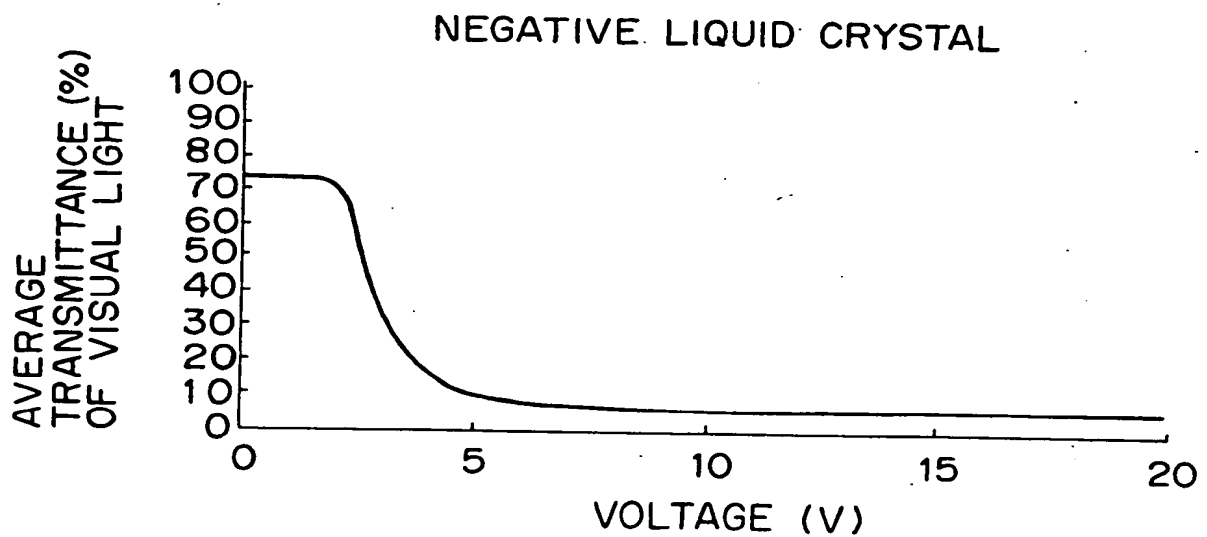


FIG. 5A

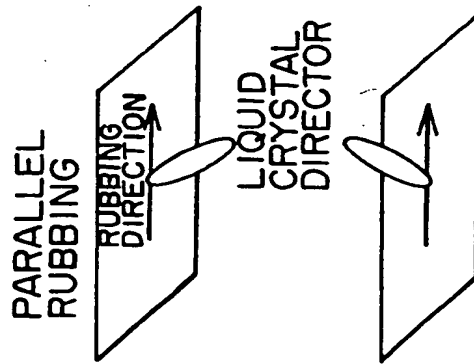


FIG. 5B

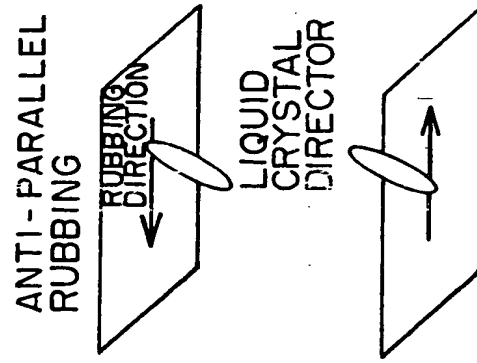
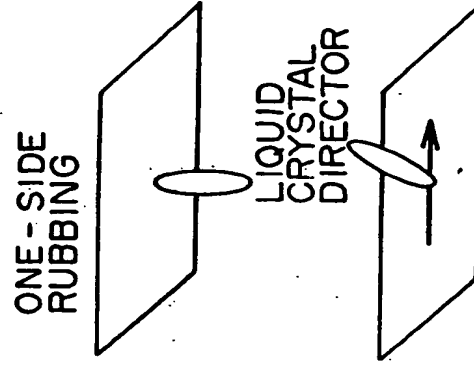
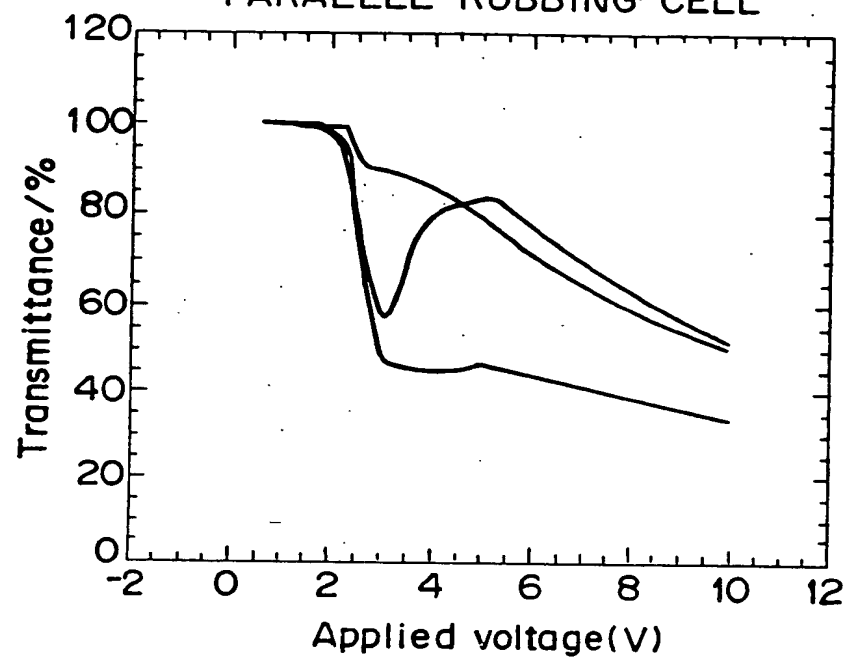


FIG. 5C



# FIG. 6A

PARALLEL RUBBING CELL



# FIG. 6B

ANTI-PARALLEL RUBBING CELL

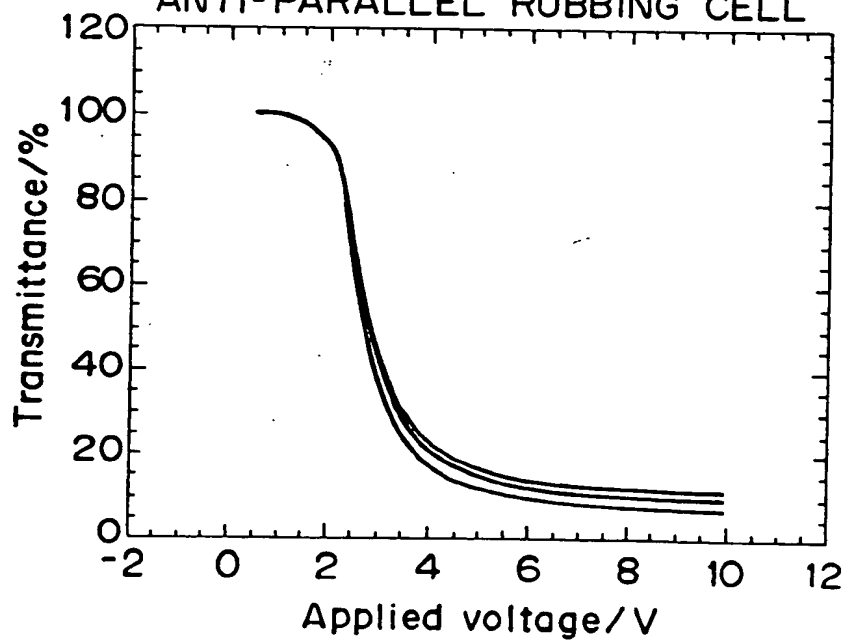
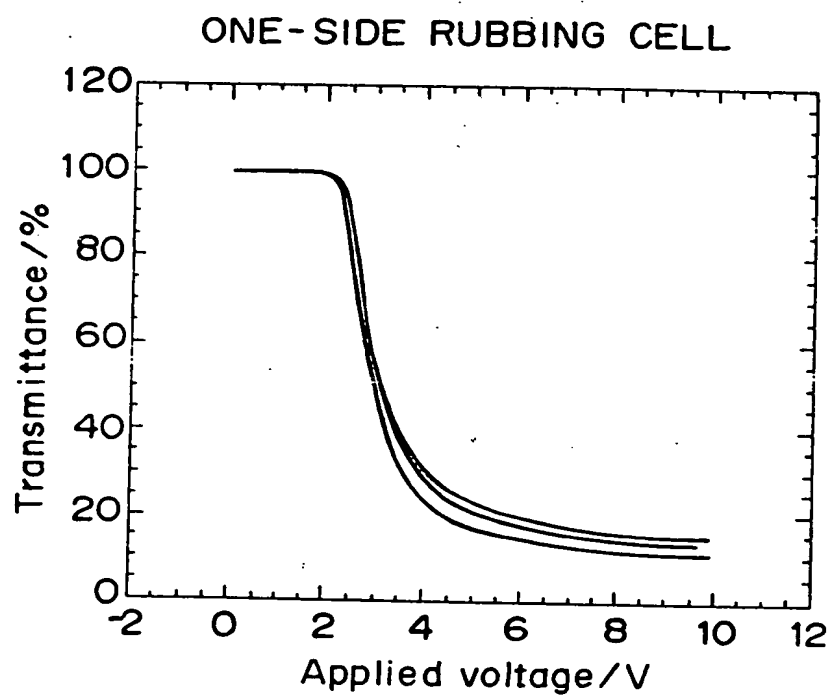
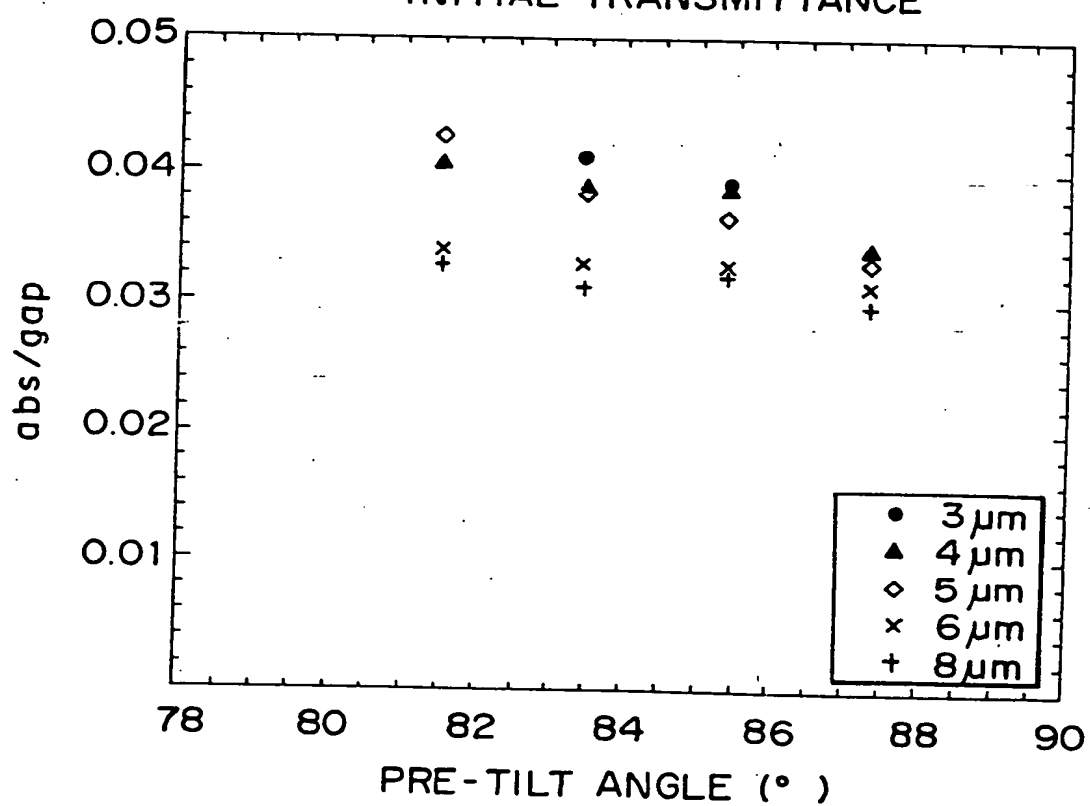


FIG. 6C



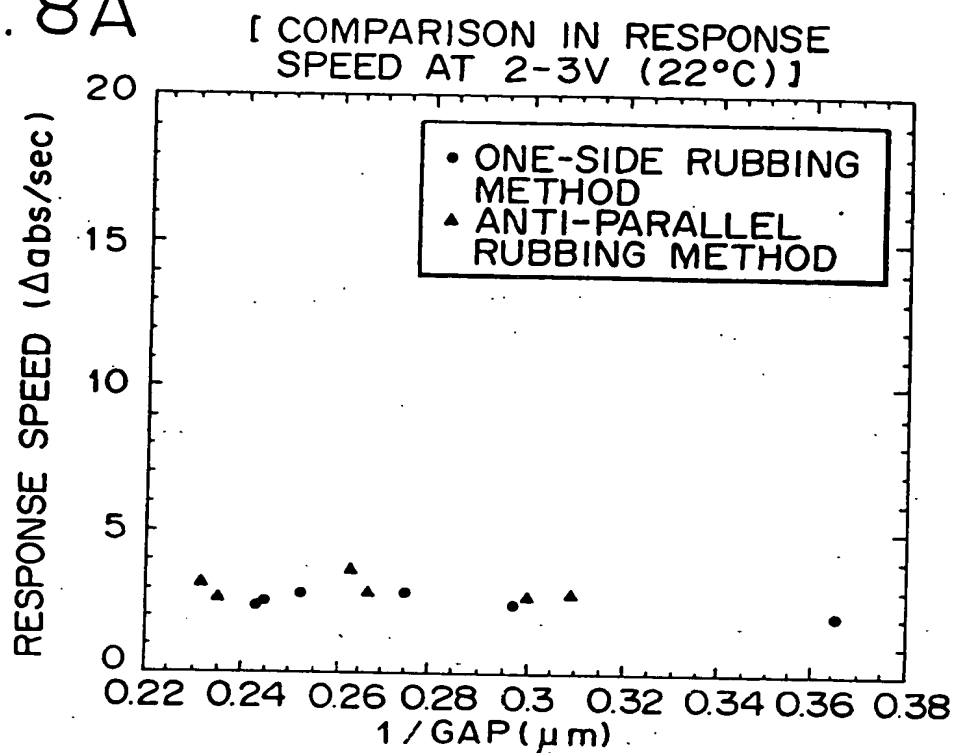
# FIG. 7

DOMINANT FACTOR OF  
INITIAL TRANSMITTANCE





# FIG. 8A



# FIG. 8B

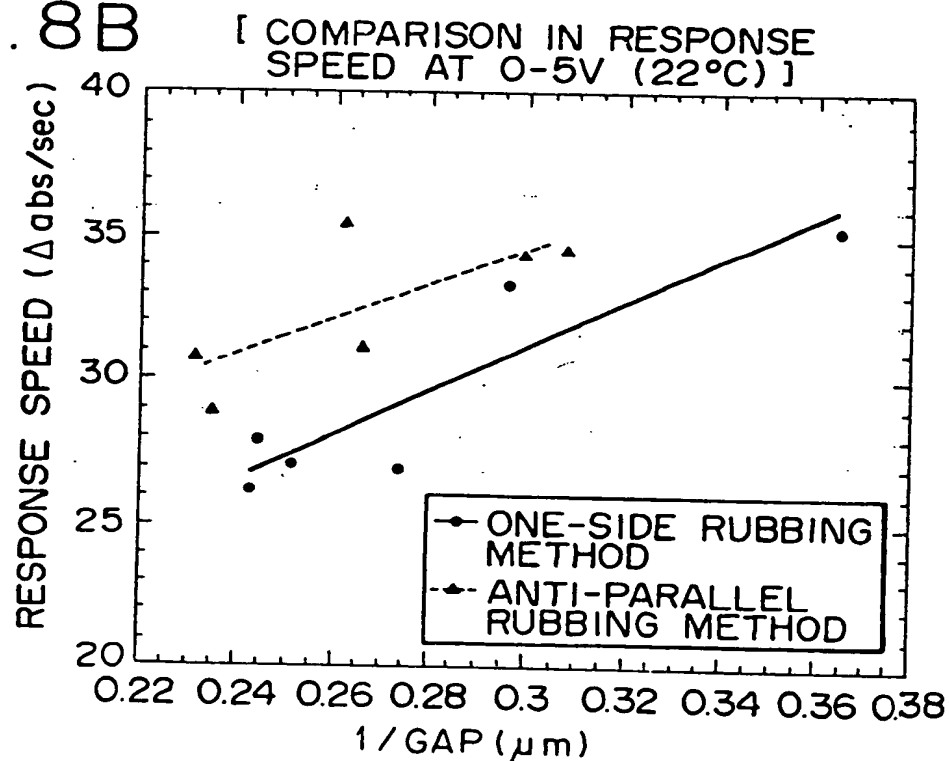


FIG. 8C

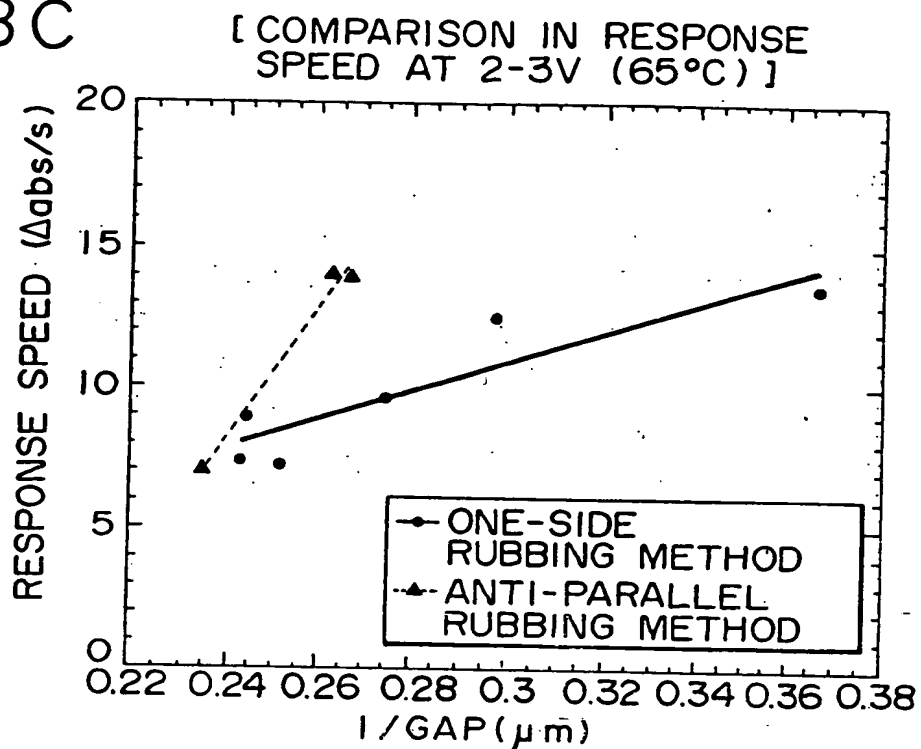
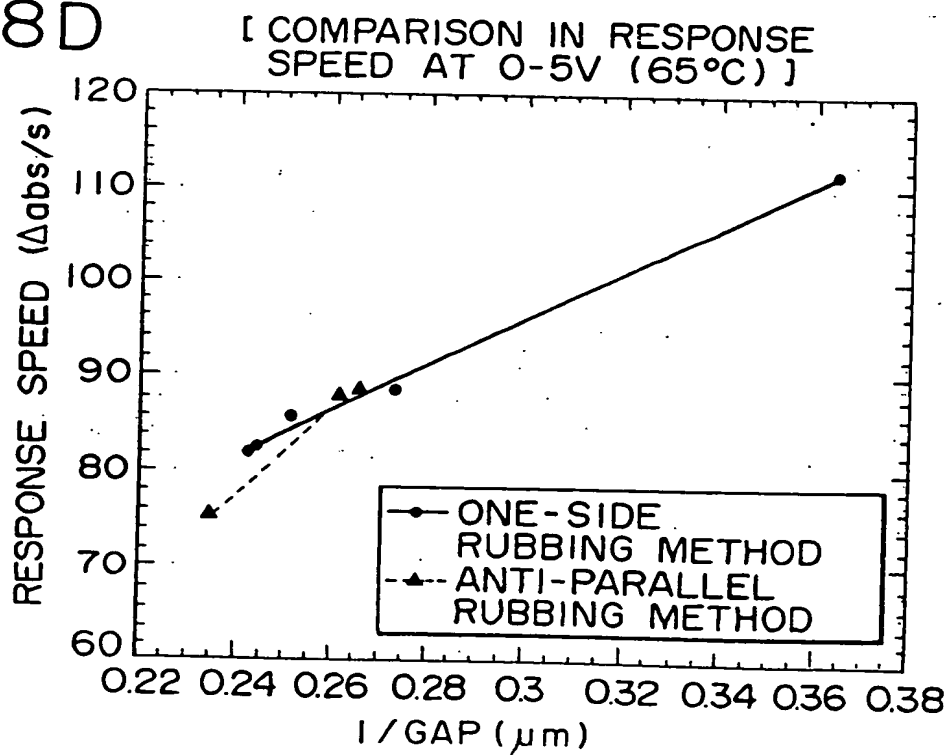


FIG. 8D



# FIG. 9

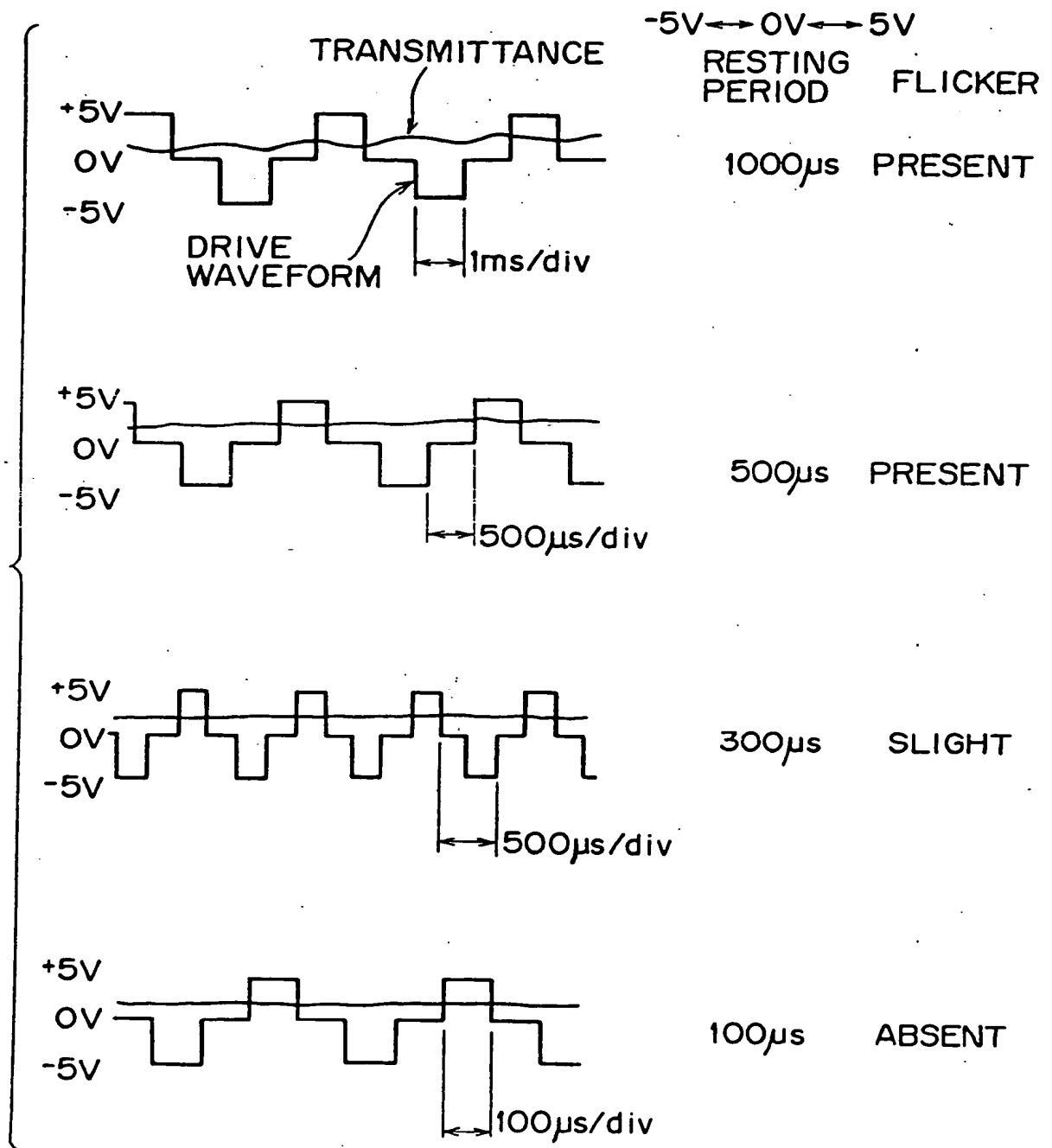


FIG. 10

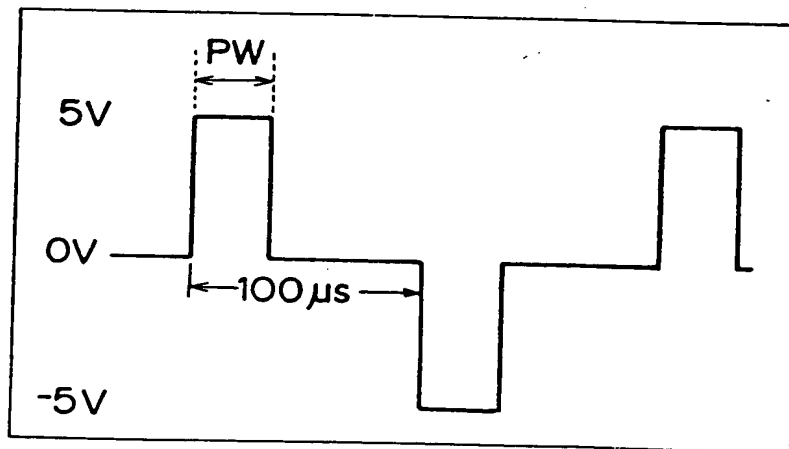
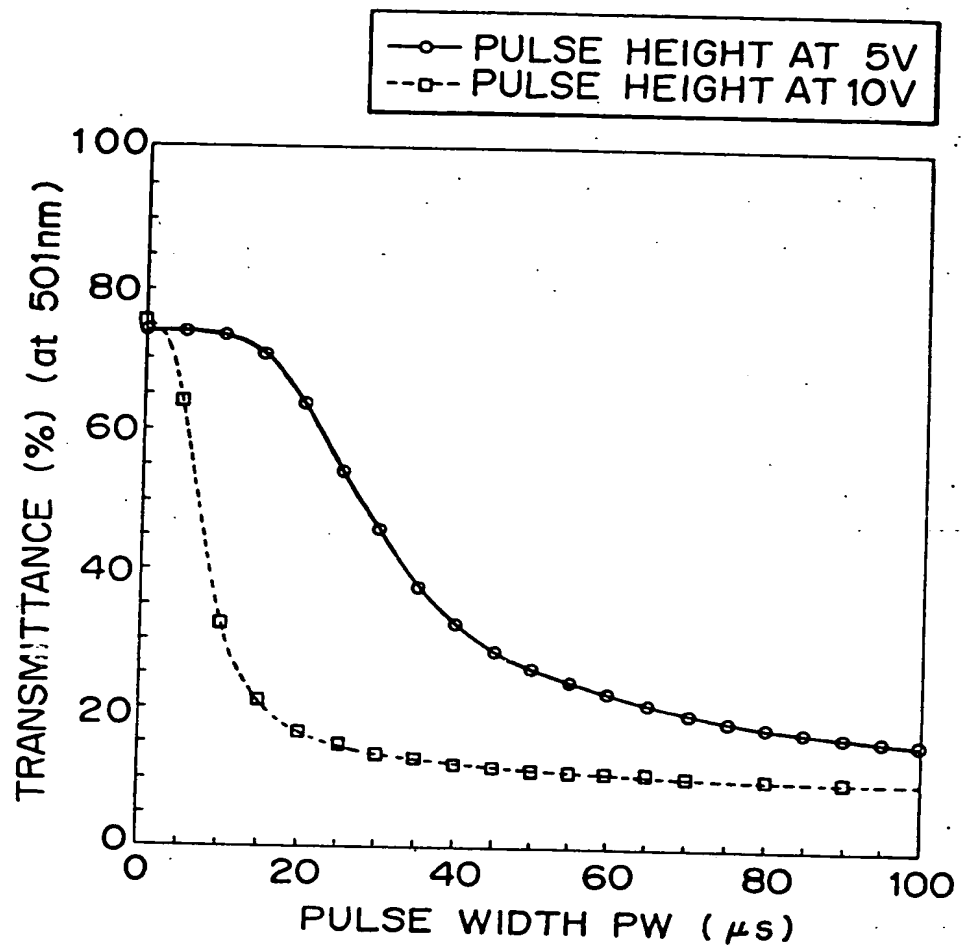


FIG. 11A

MODULATION OF PULSE WIDTH

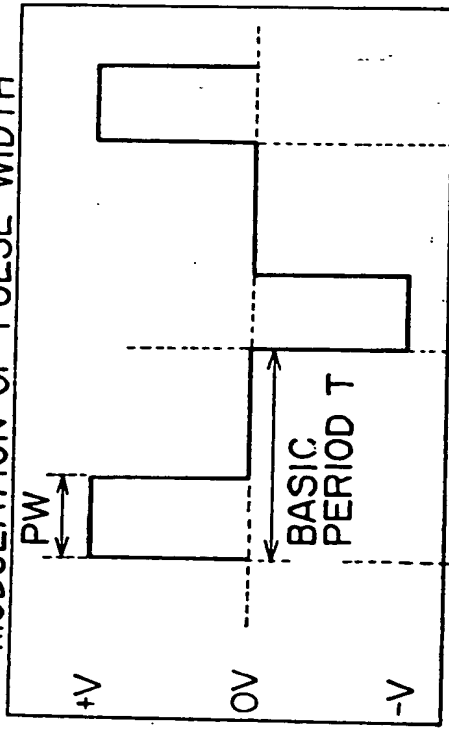
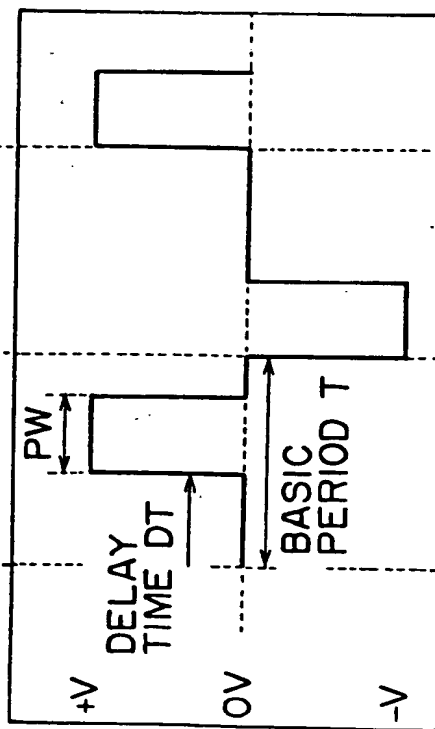


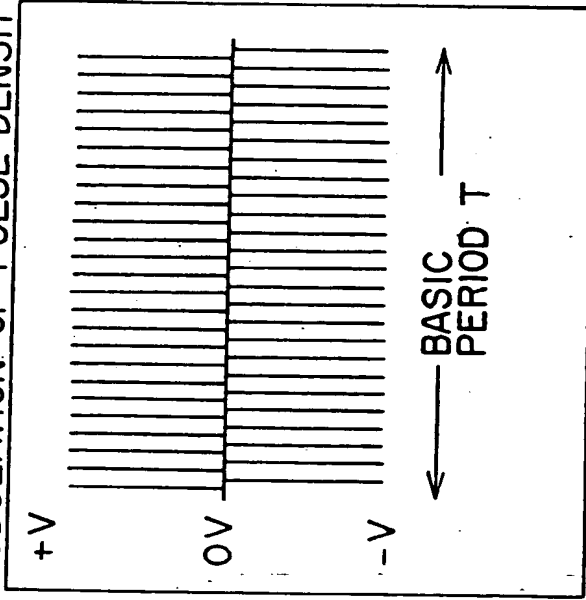
FIG. 11B



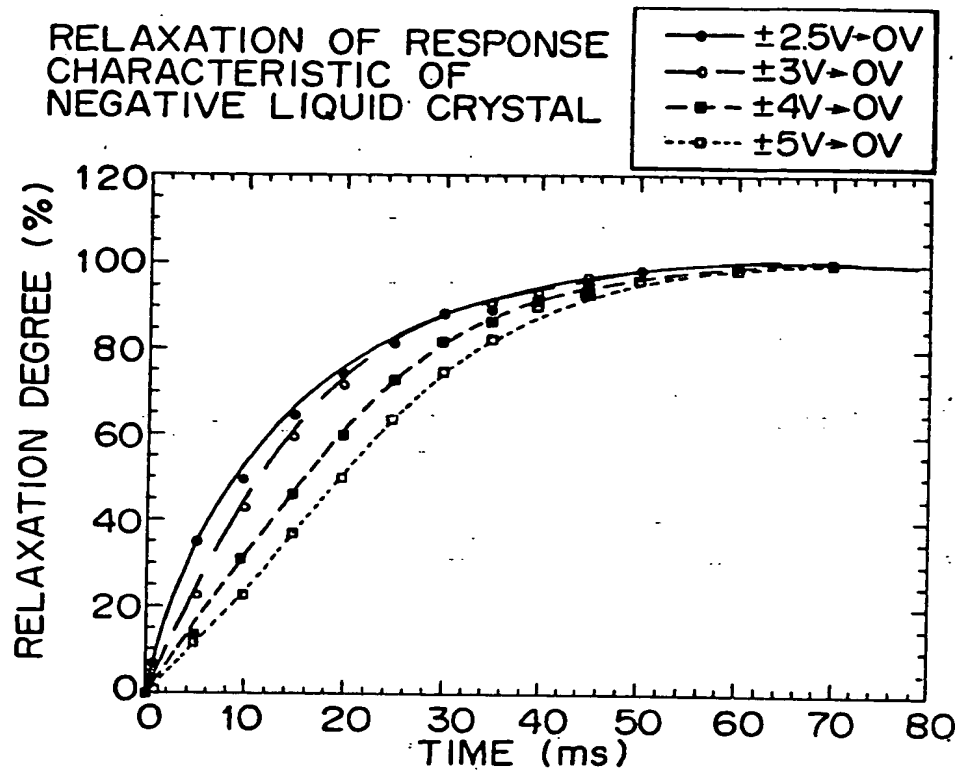
EQUIVALENT WAVEFORM

FIG. 11C

MODULATION OF PULSE DENSITY



# FIG. 12



RELATION STAGE	LINEAR TERM		NON-LINEAR TERM	
	$R_1$	$\tau_1$	$R_2$	$\tau_2$
2.5V→0V	100%	14.2ms	0%	
3V→0V	78%	15.8ms	22%	17.6ms
4V→0V	56%	20.4ms	44%	21.9ms
5V→0V	39%	19.7ms	61%	26.9ms

FIG. 13A

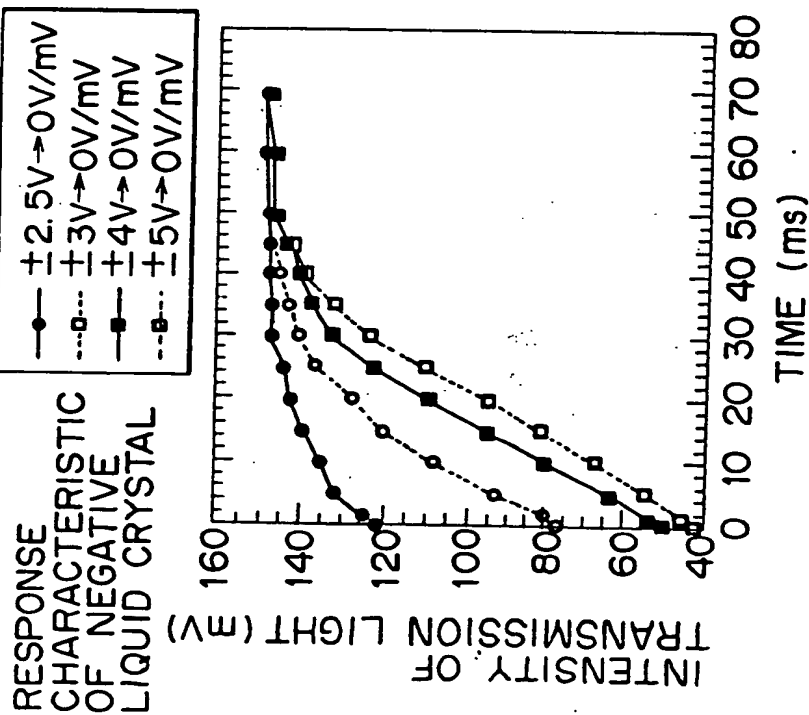
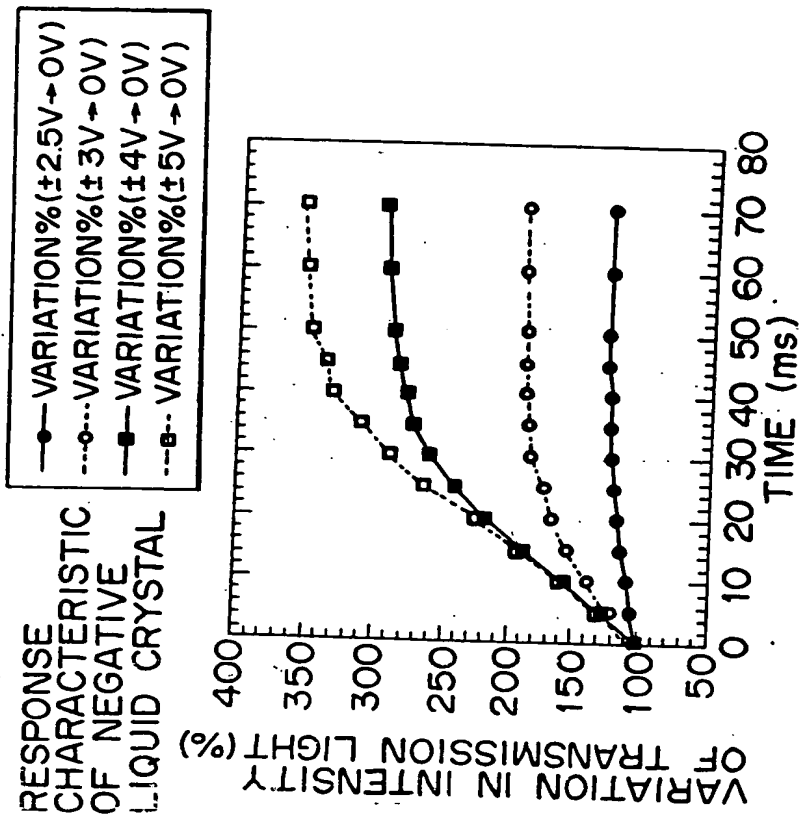


FIG. 13B



# FIG. 13C

RESPONSE  
CHARACTERISTIC  
OF NEGATIVE  
LIQUID CRYSTAL

- - - - VARIATION% ( $\pm 2.5V \rightarrow 0V$ )  
 - - - - VARIATION% ( $\pm 3V \rightarrow 0V$ )  
 - - - - VARIATION% ( $\pm 4V \rightarrow 0V$ )  
 ——— VARIATION% ( $+ 5V \rightarrow 0V$ )

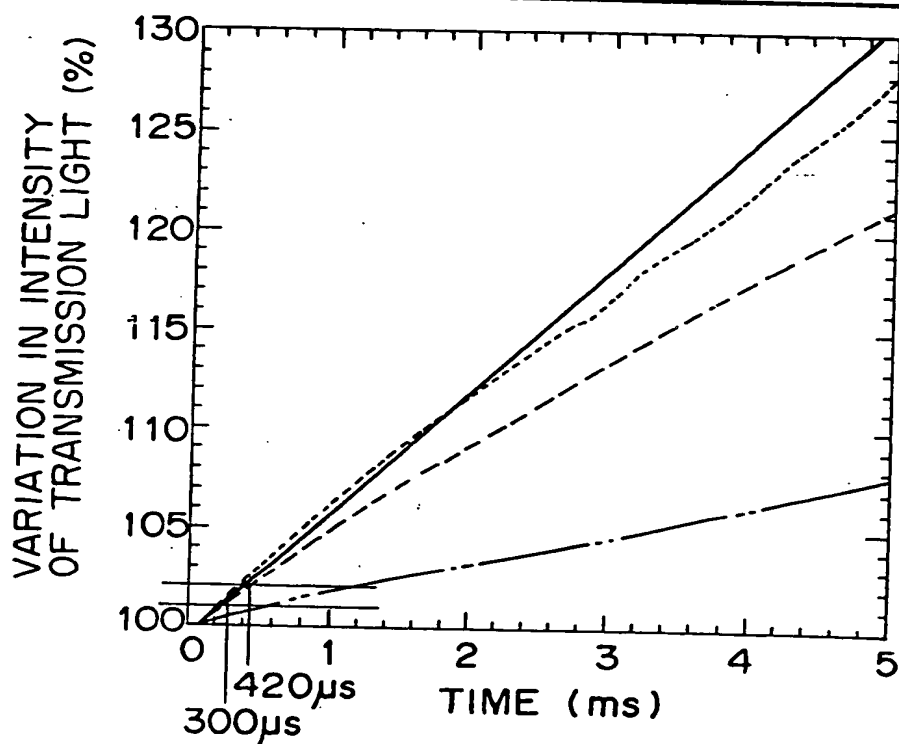




FIG. 14

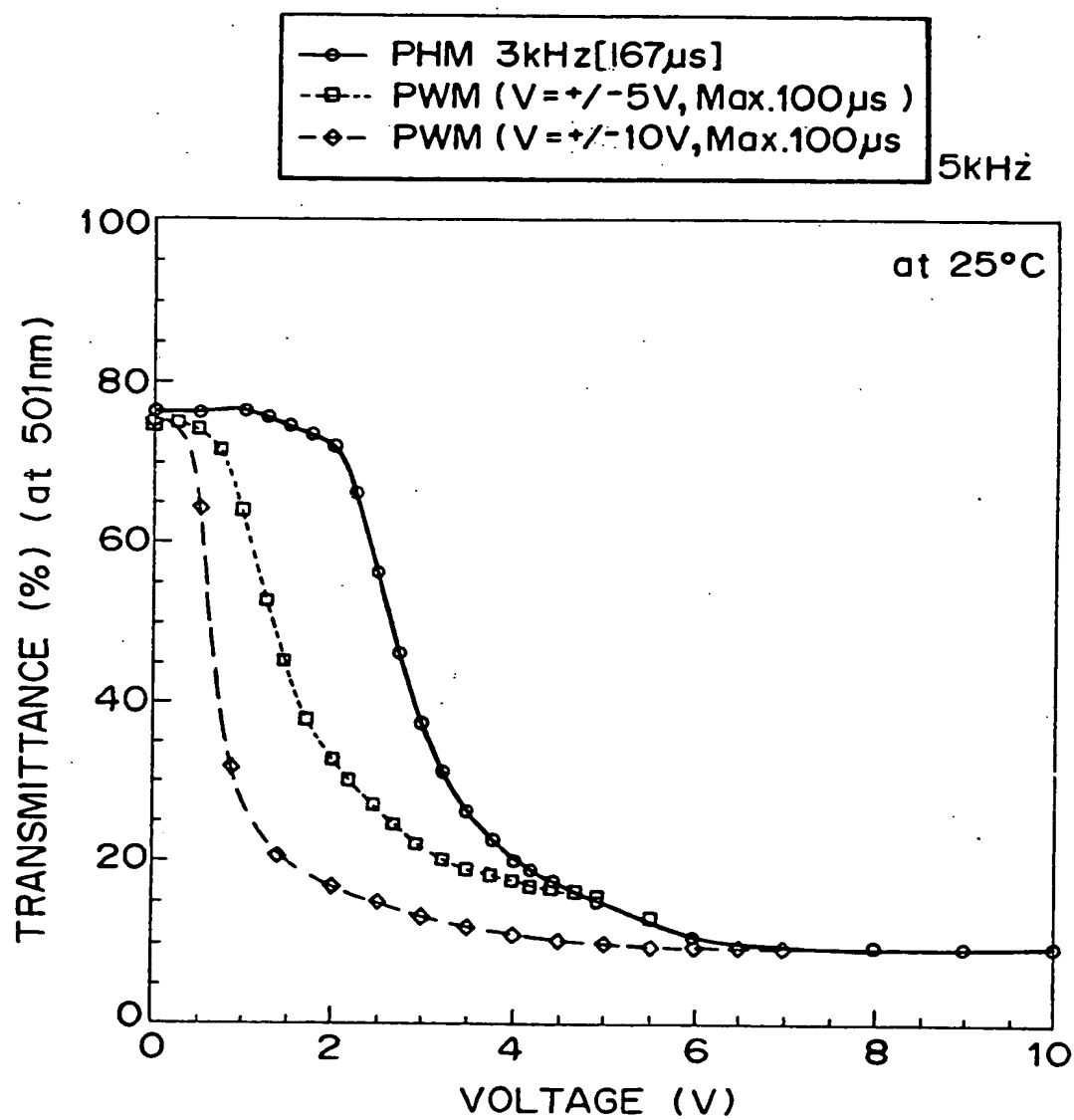


FIG. 15

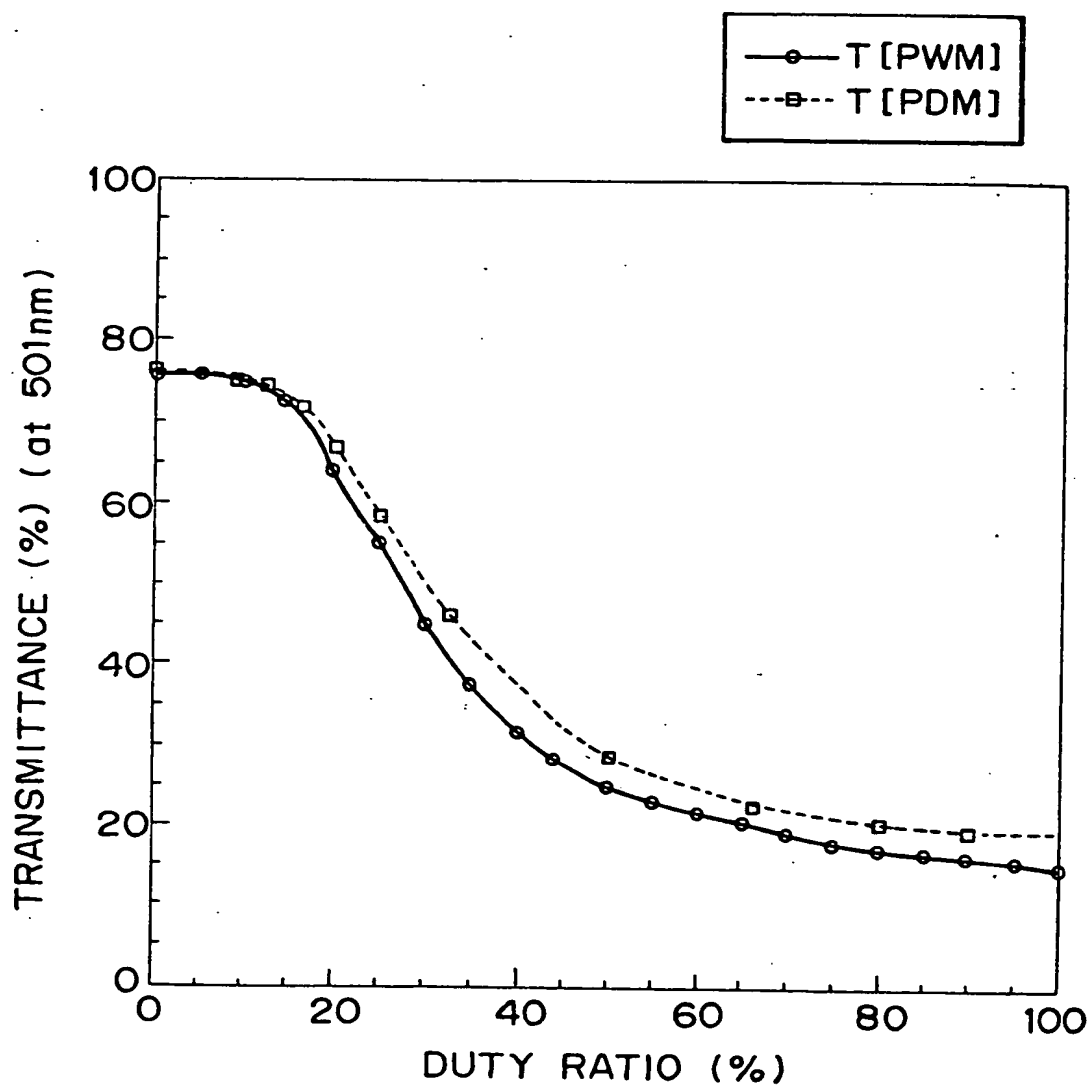


FIG. 16A

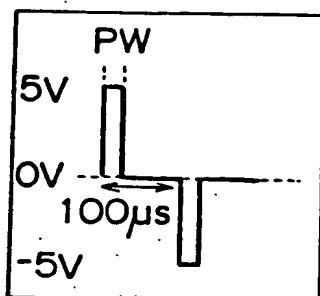


FIG. 16B

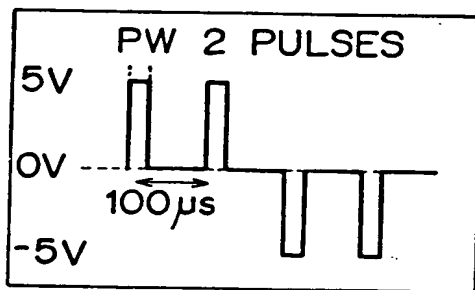


FIG. 16C

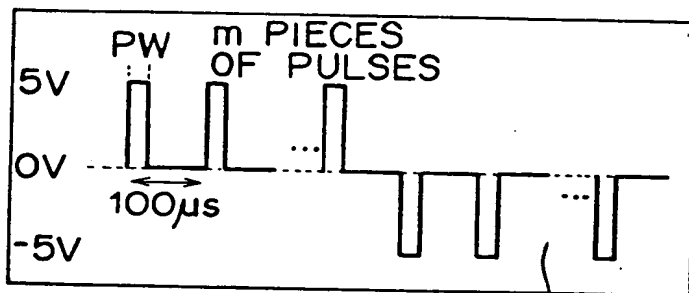


FIG. 16D

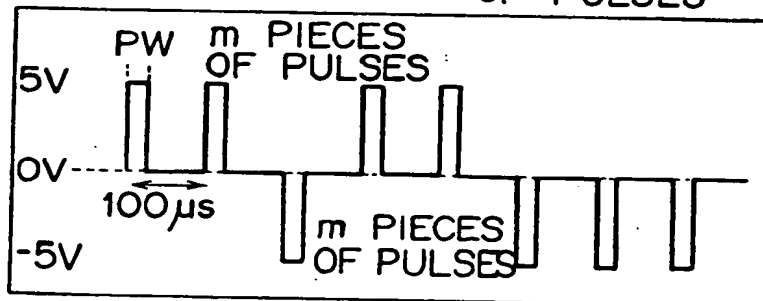
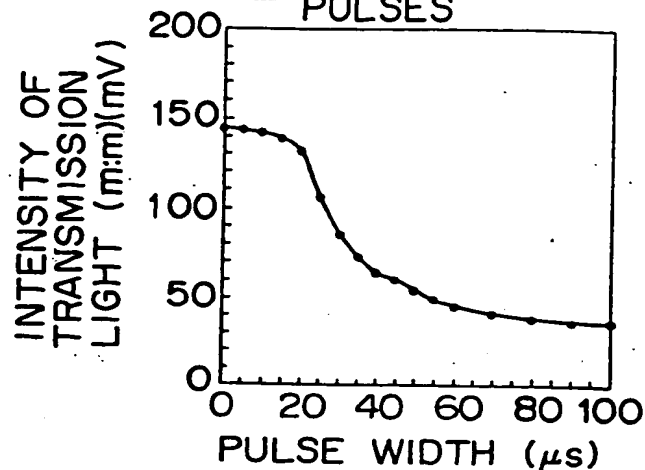


FIG. 16E NUMBER OF SYMMETRIC PULSES



# FIG. 17

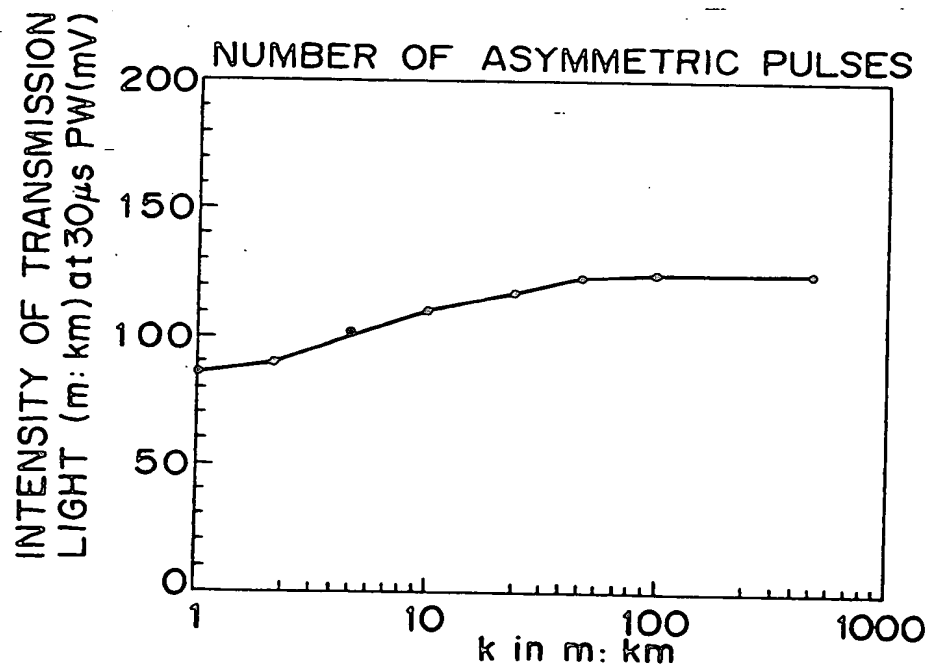
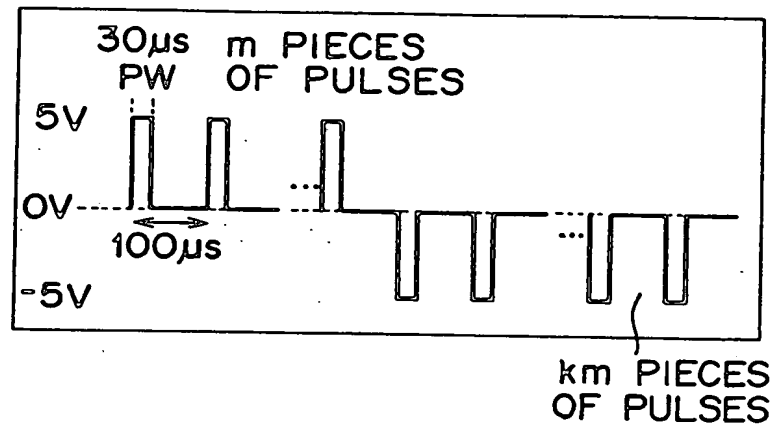
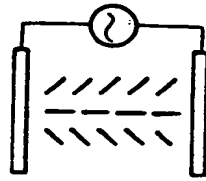
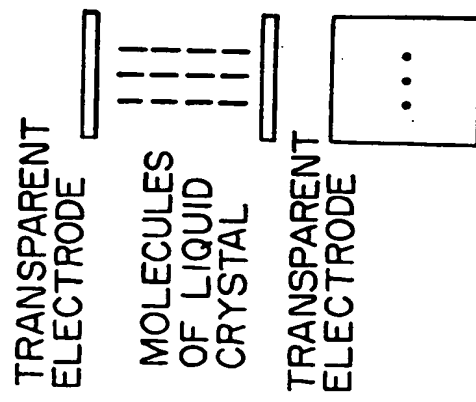
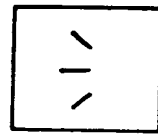
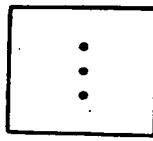
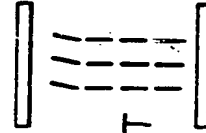


FIG.18A

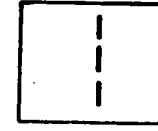
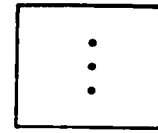
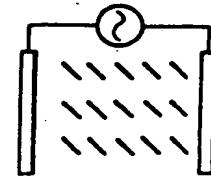


RUBBING TREATMENT

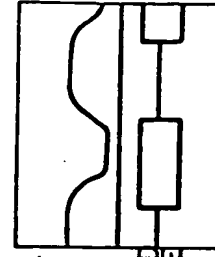


TILTED IN DIFFERENT DIRECTIONS

FIG.18B



TILTED IN SPECIFIC DIRECTION

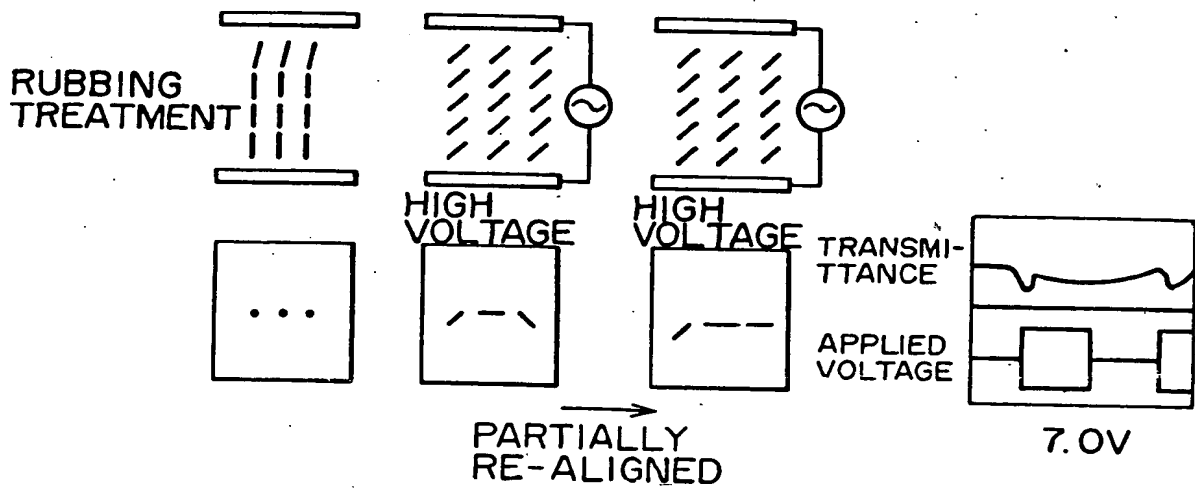


4V

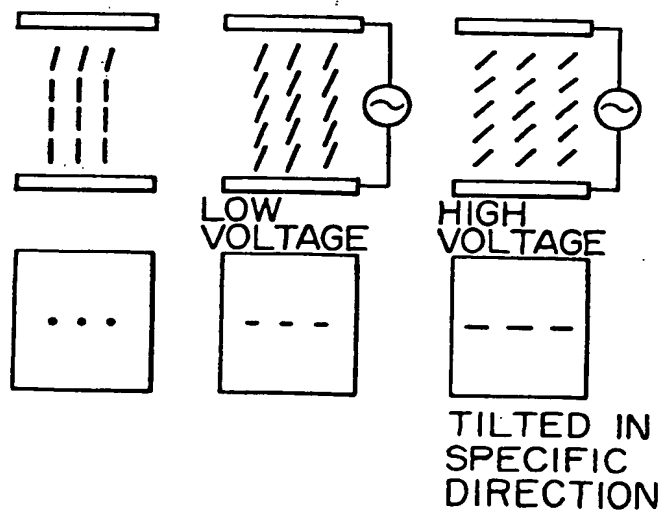
TRANSMITTANCE

APPLIED VOLTAGE

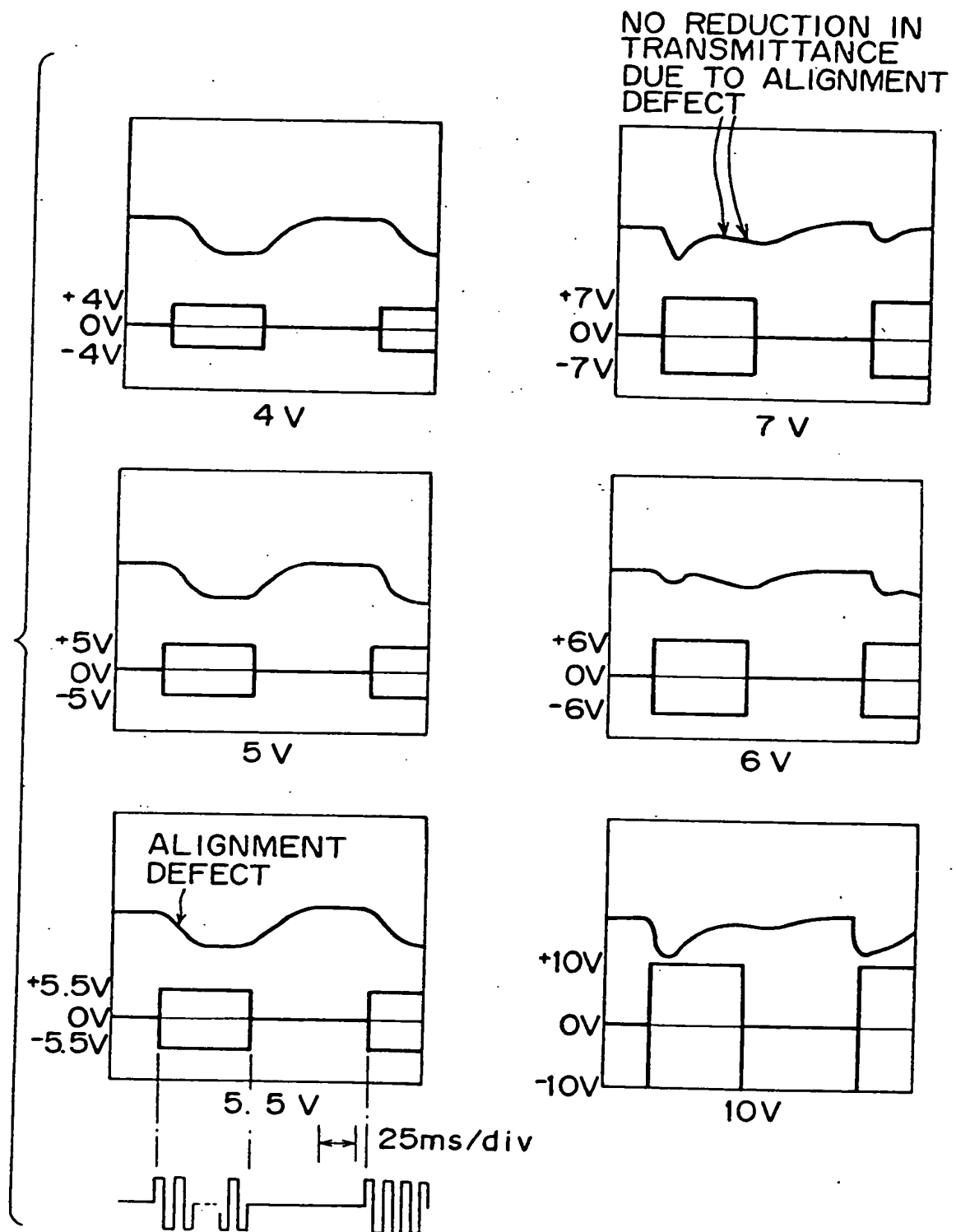
# FIG. 18C



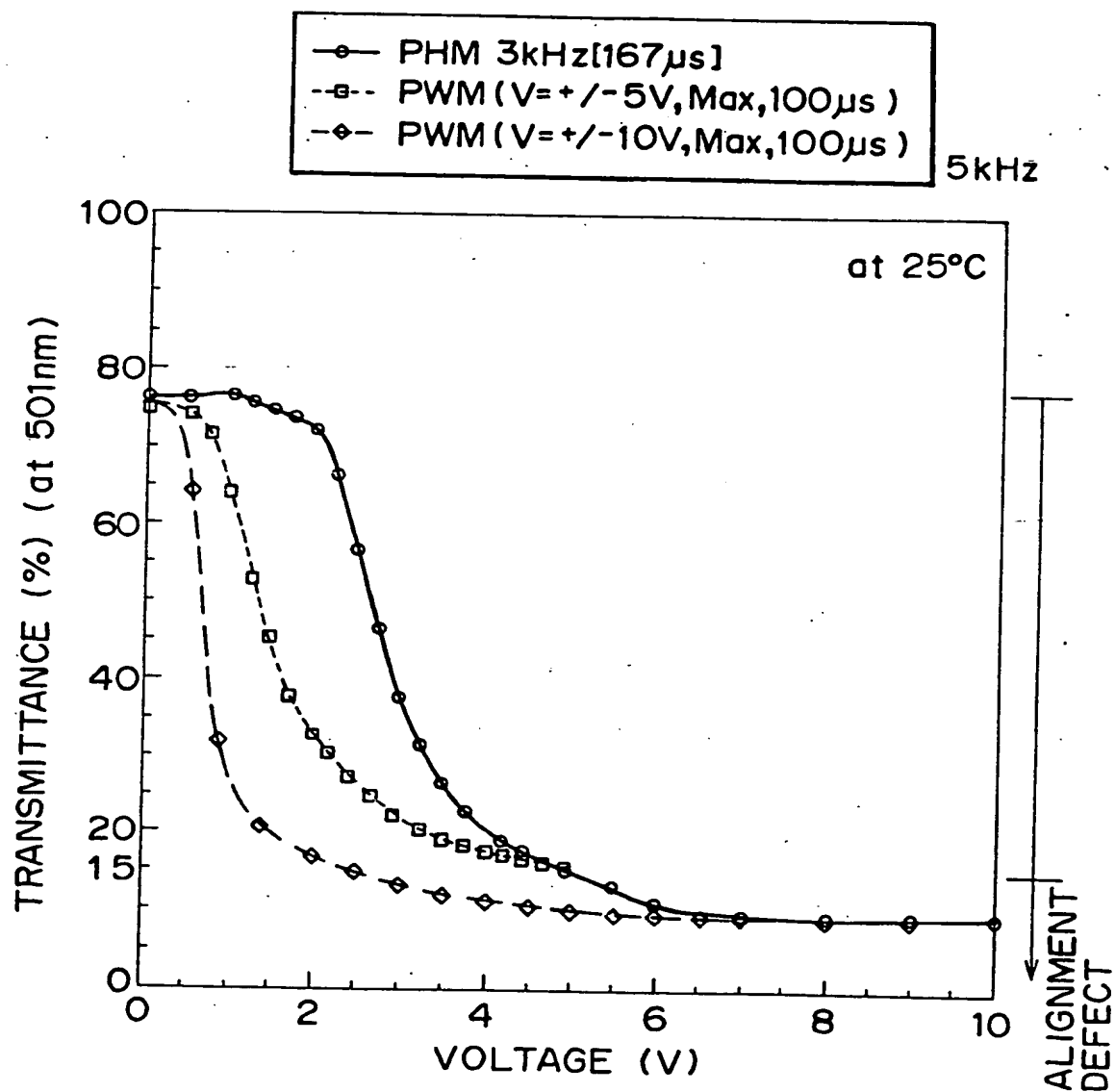
# FIG. 18D



# FIG. 19

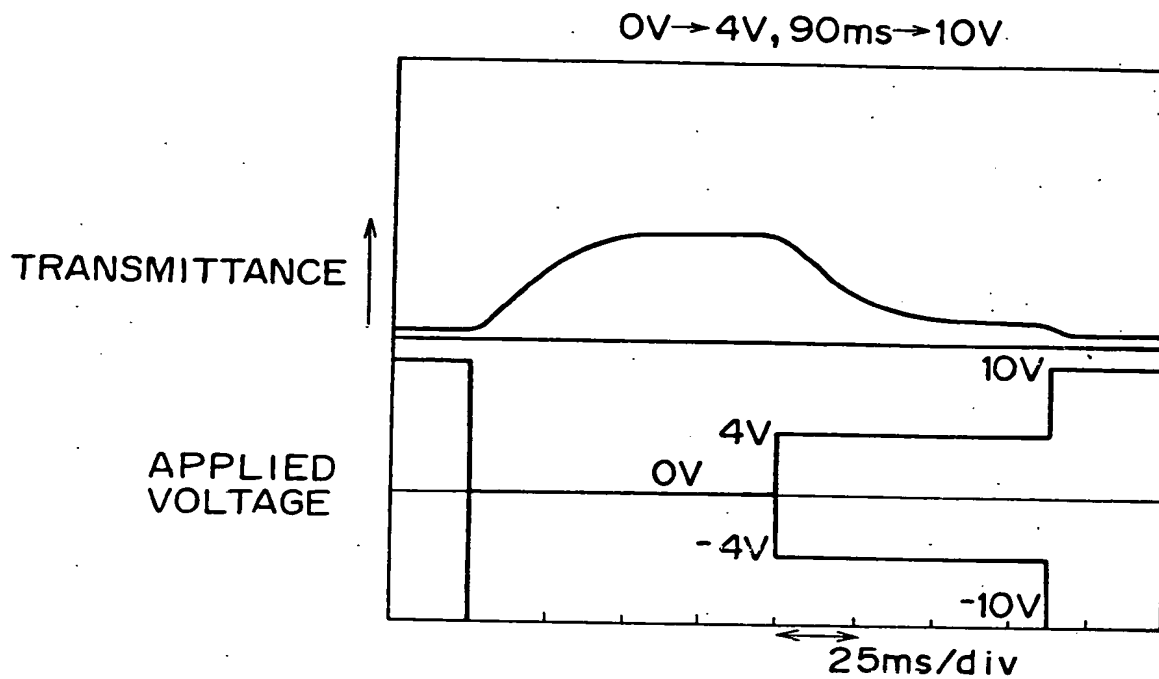


# FIG. 20

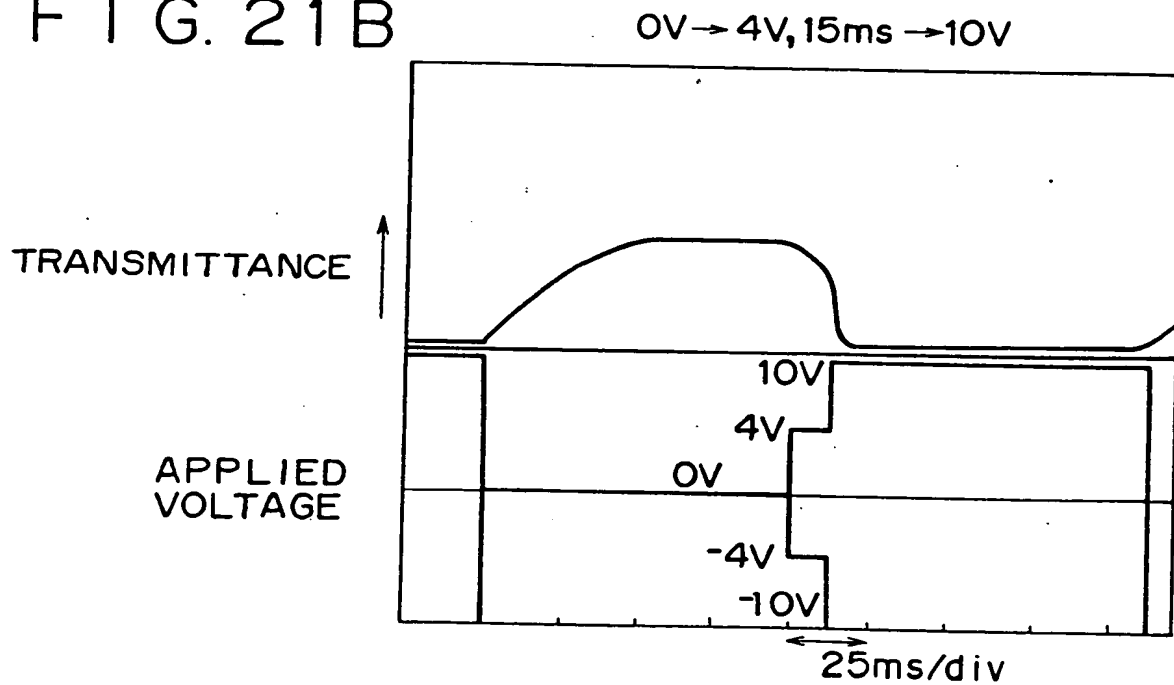




# FIG. 21A



# FIG. 21B



# FIG. 22

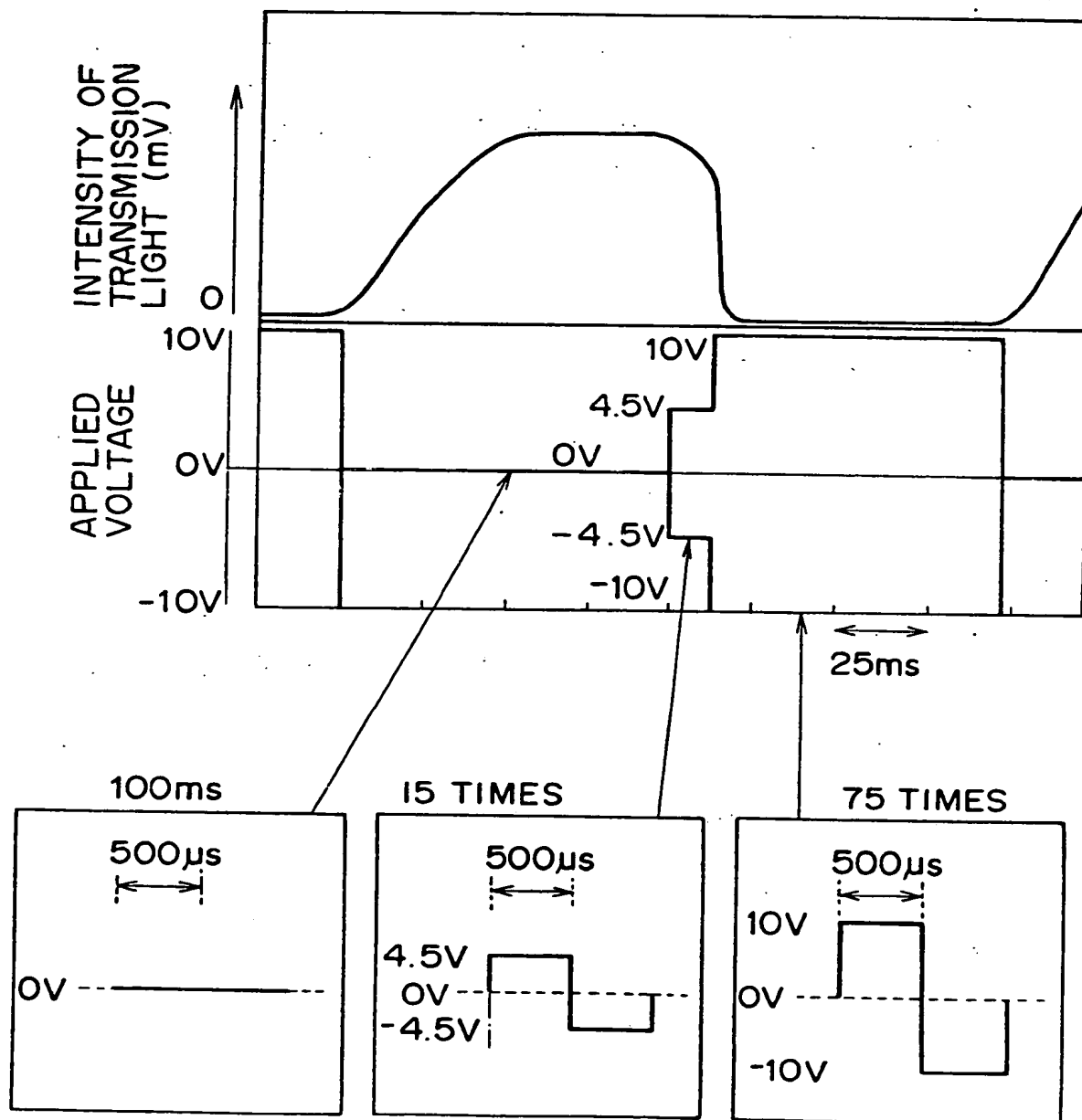
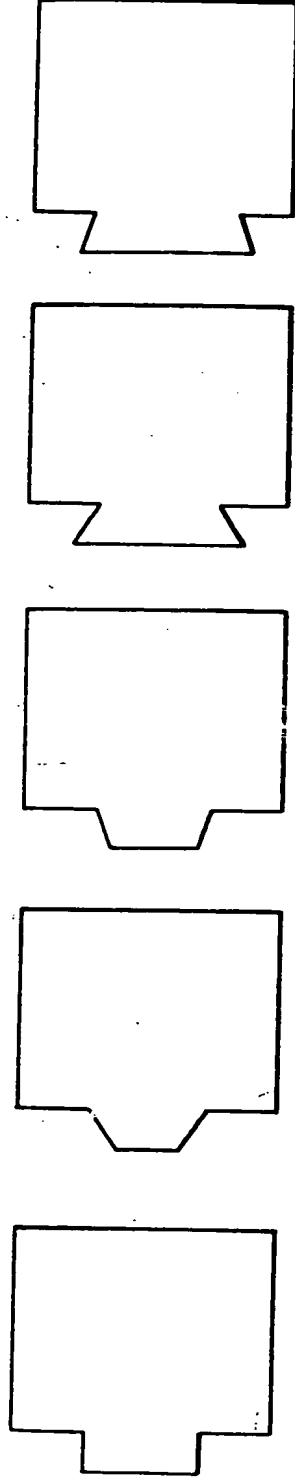
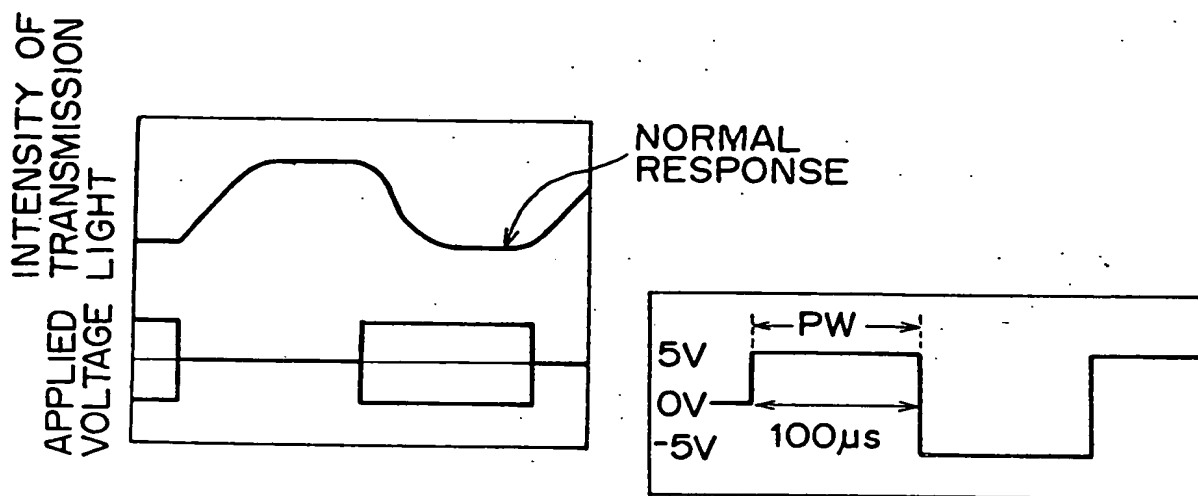


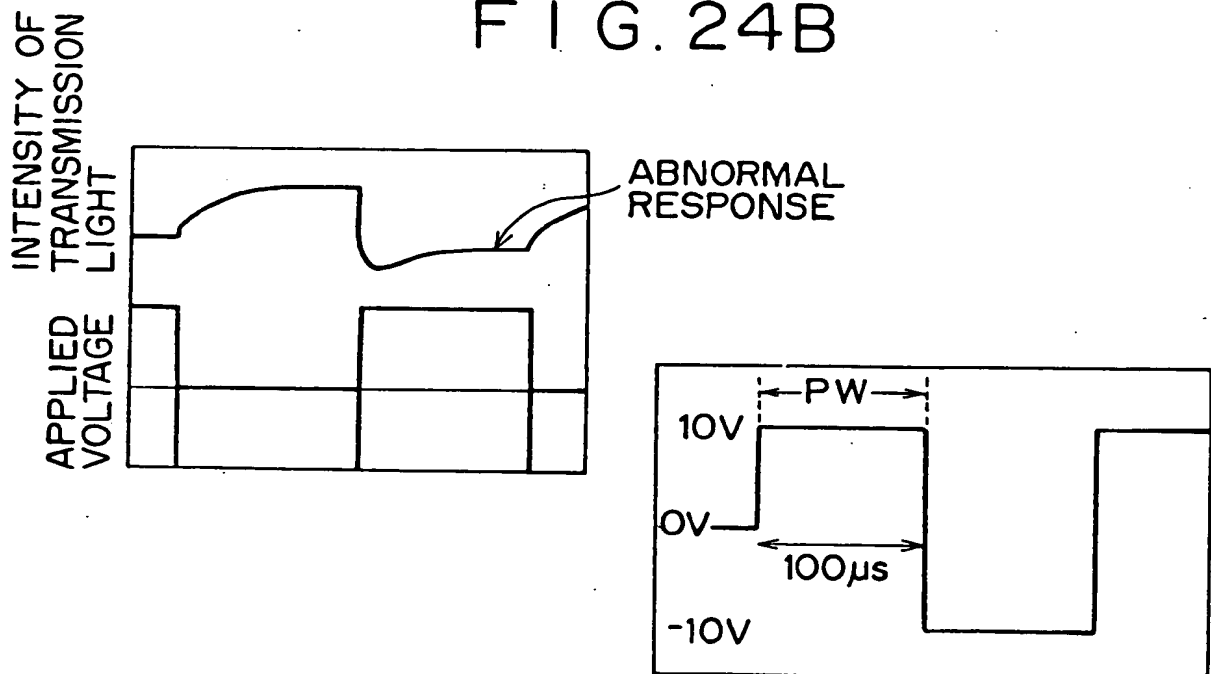
FIG.23A FIG.23B FIG.23C FIG.23D FIG.23E



# FIG. 24A



# FIG. 24B



# FIG. 25

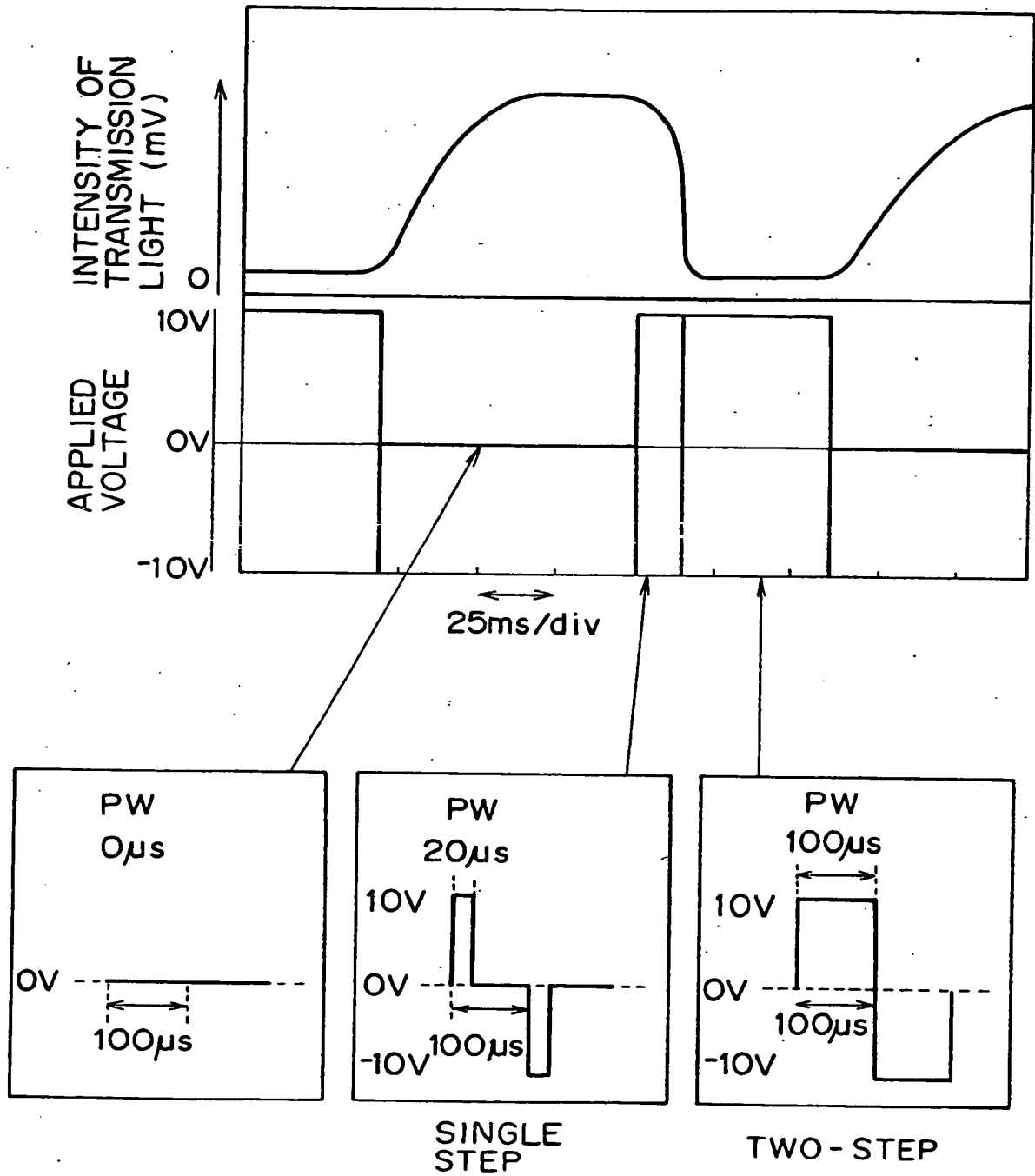


FIG. 26

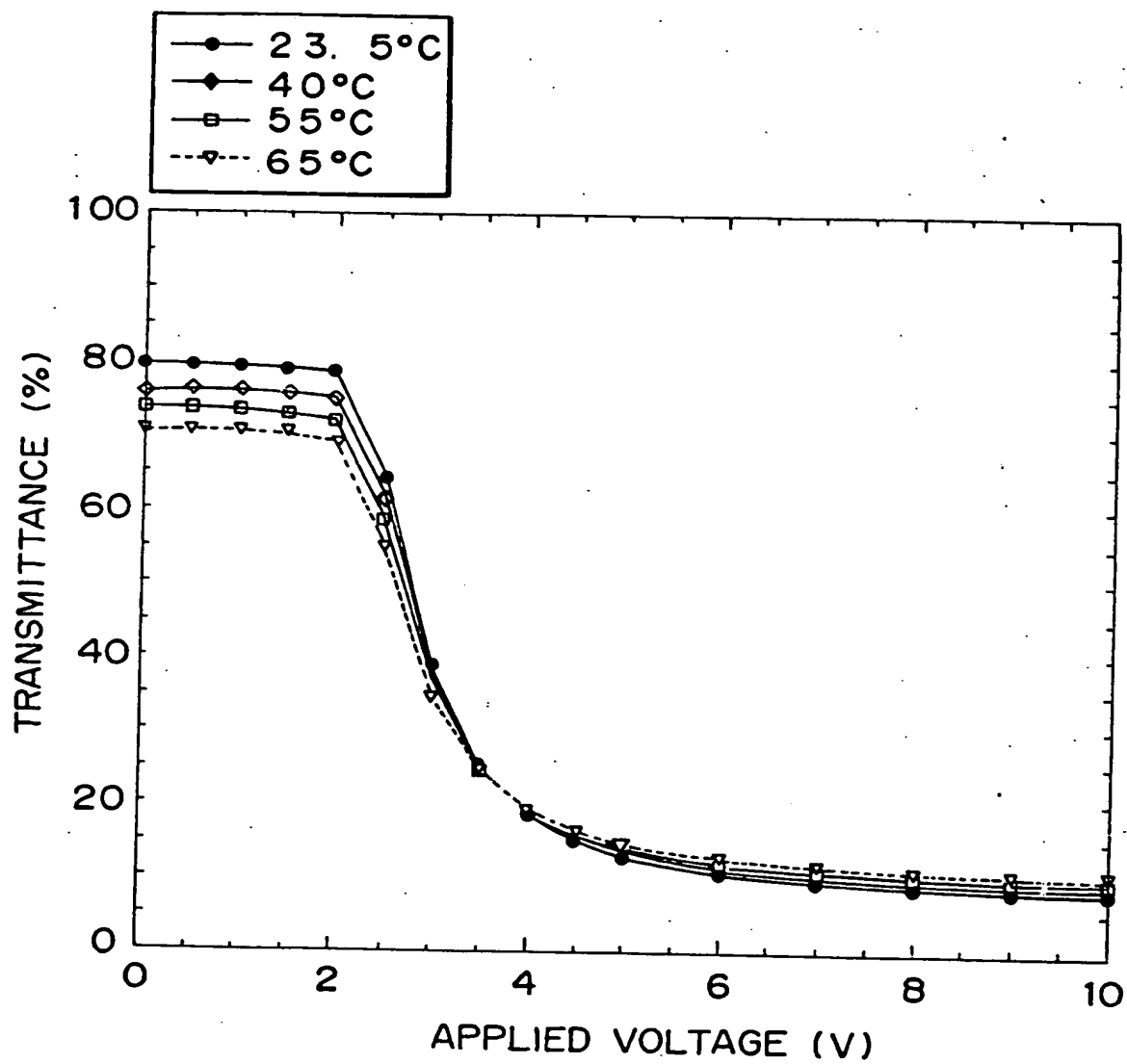


FIG. 27

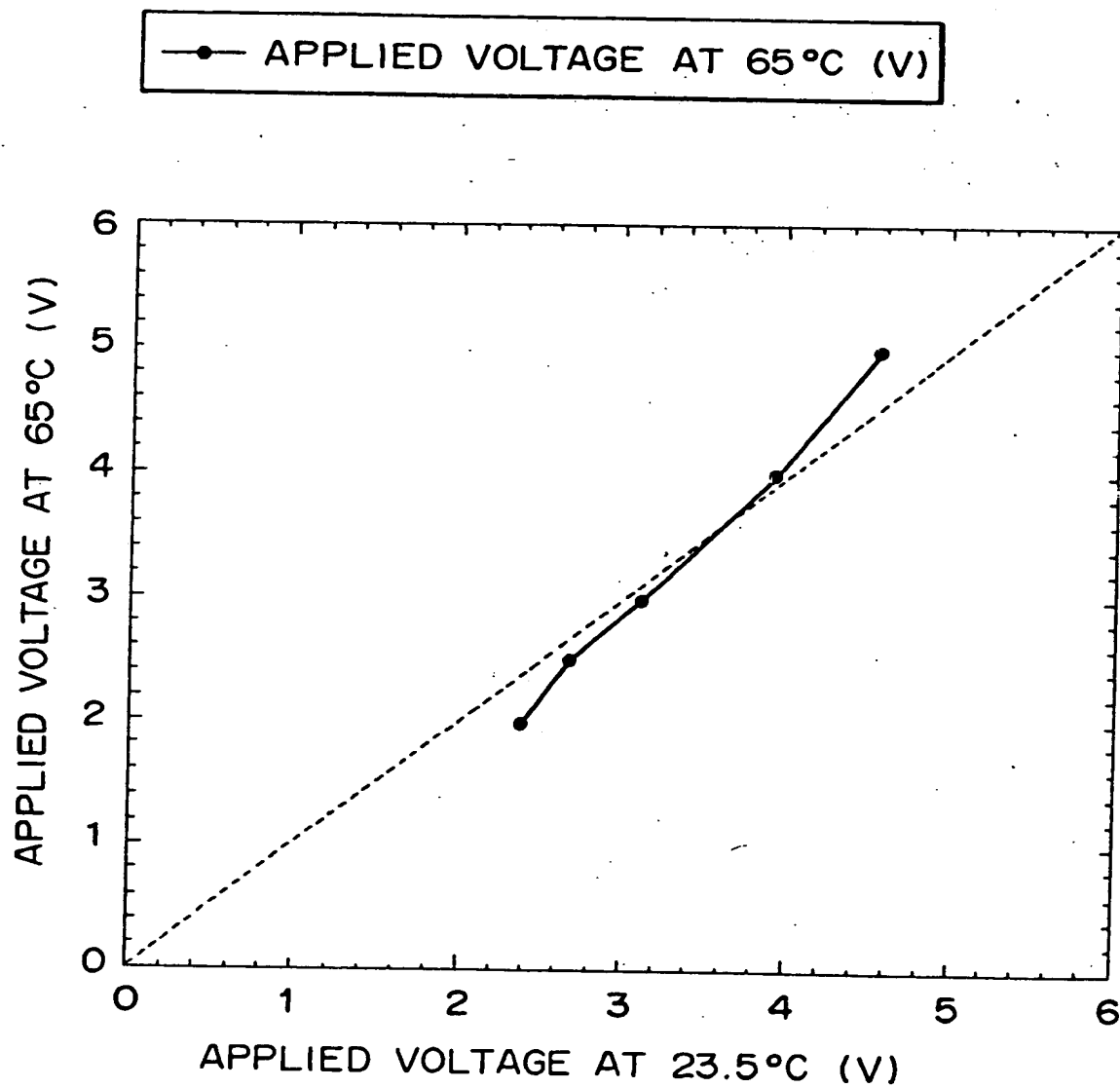


FIG. 28

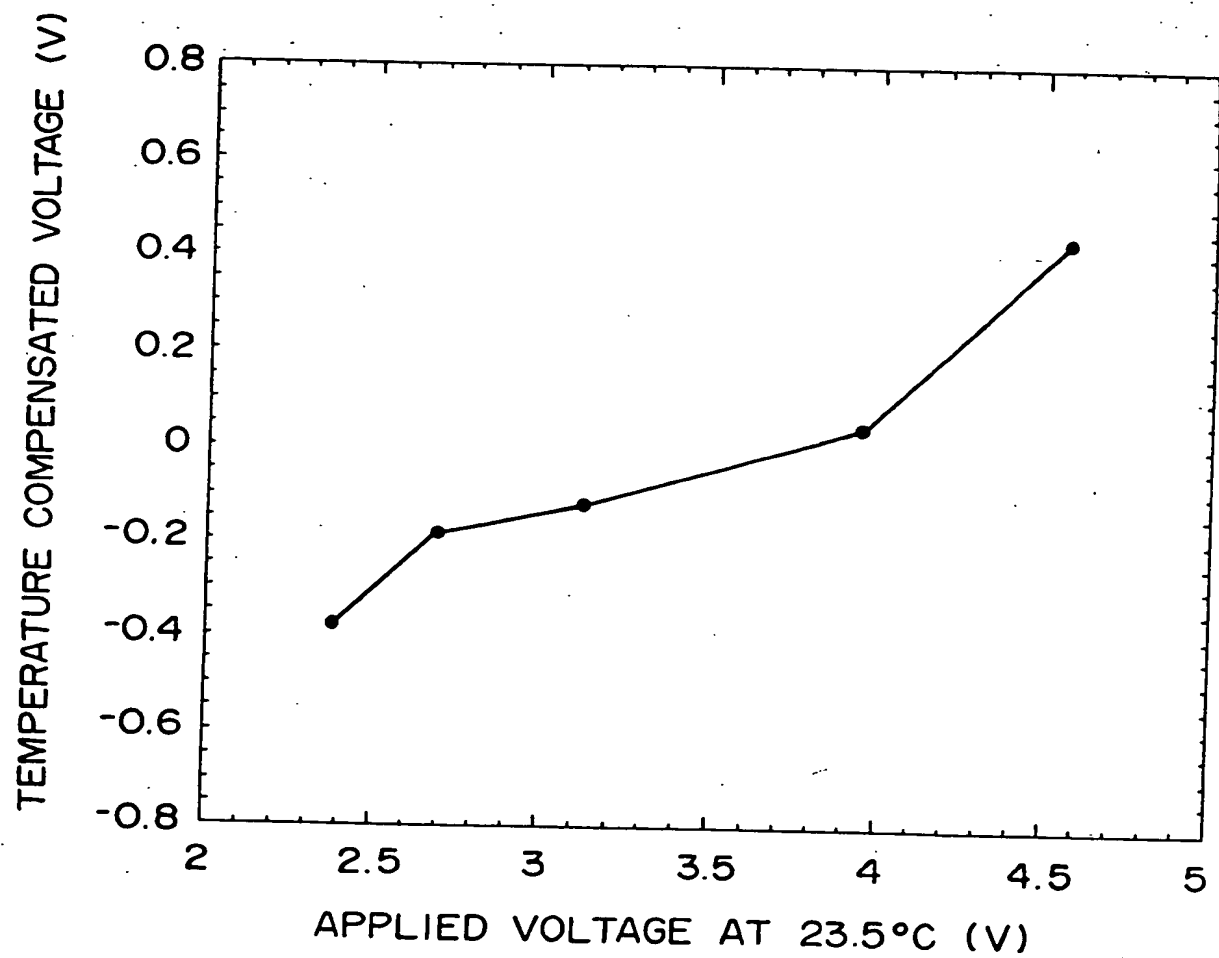




FIG. 29

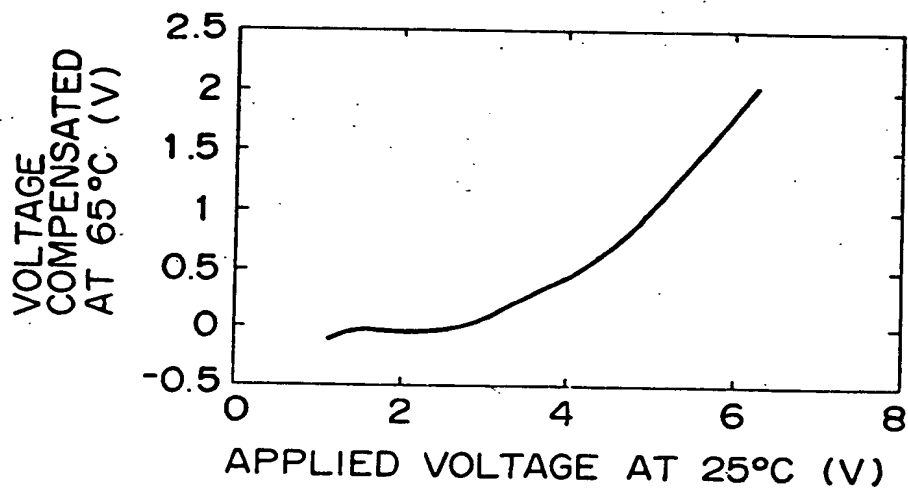


FIG. 30

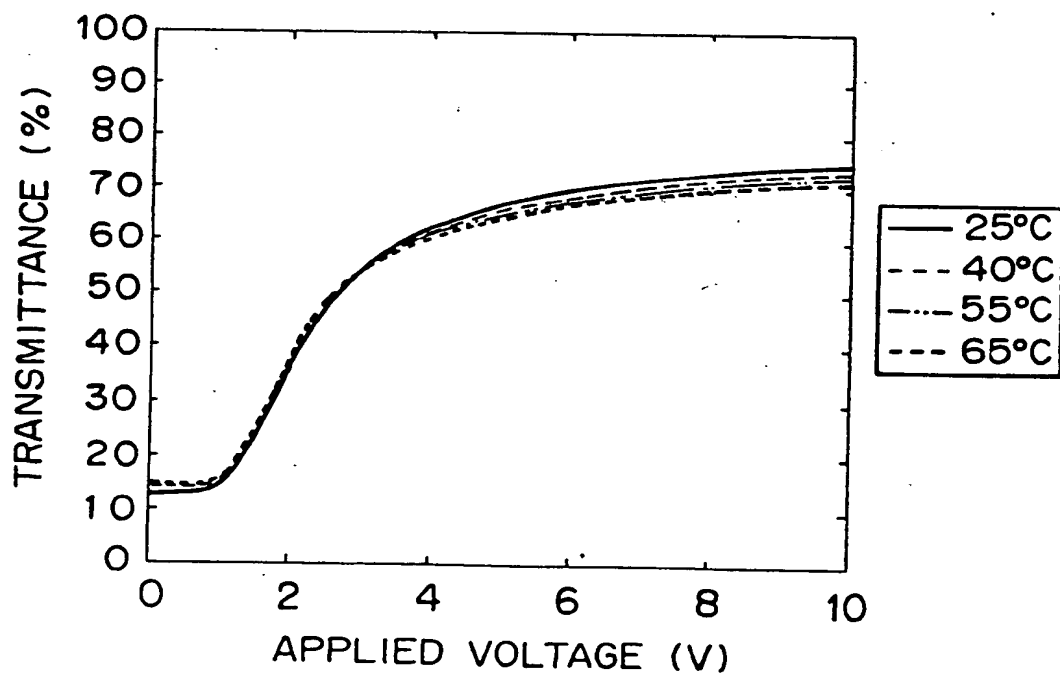
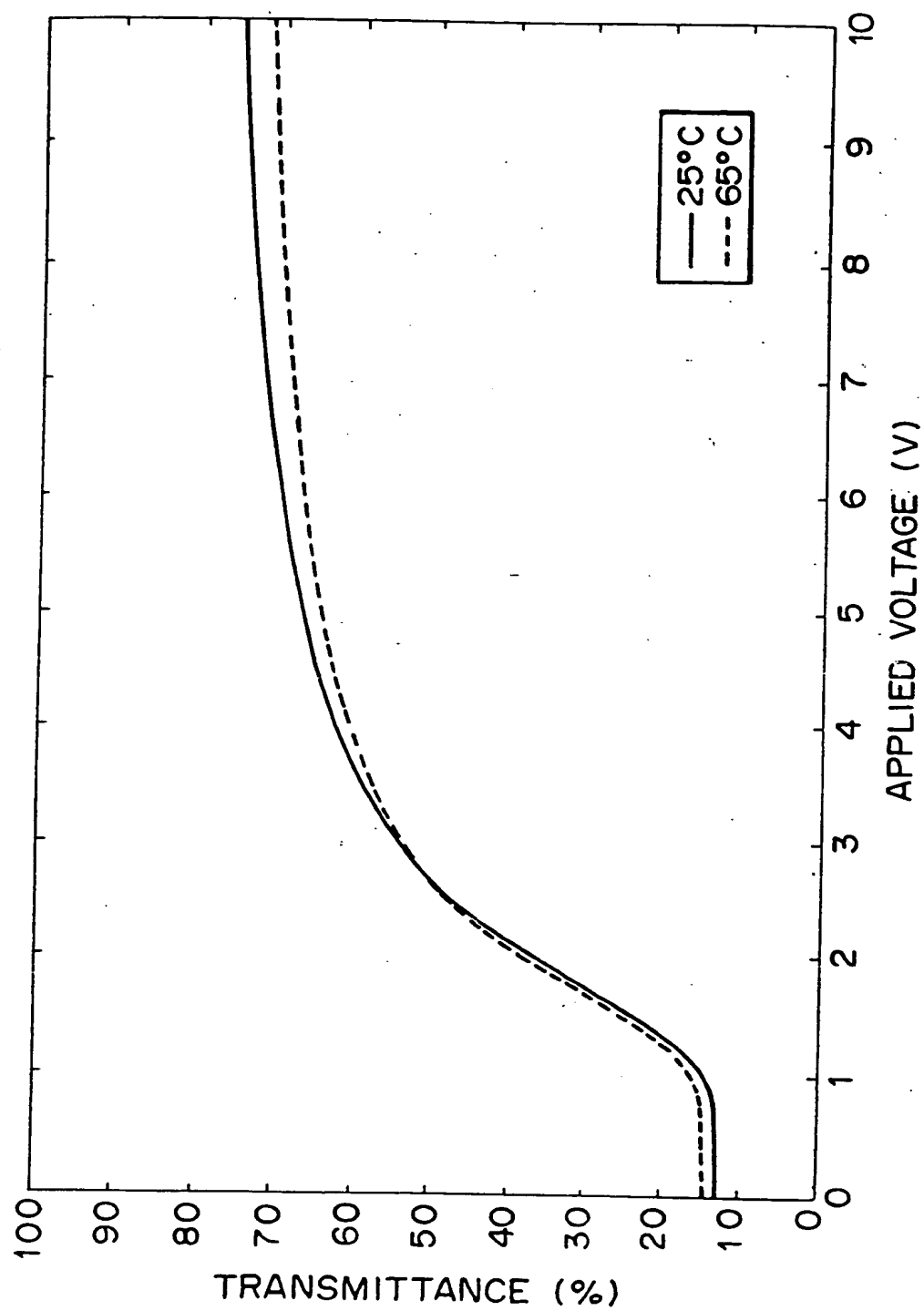
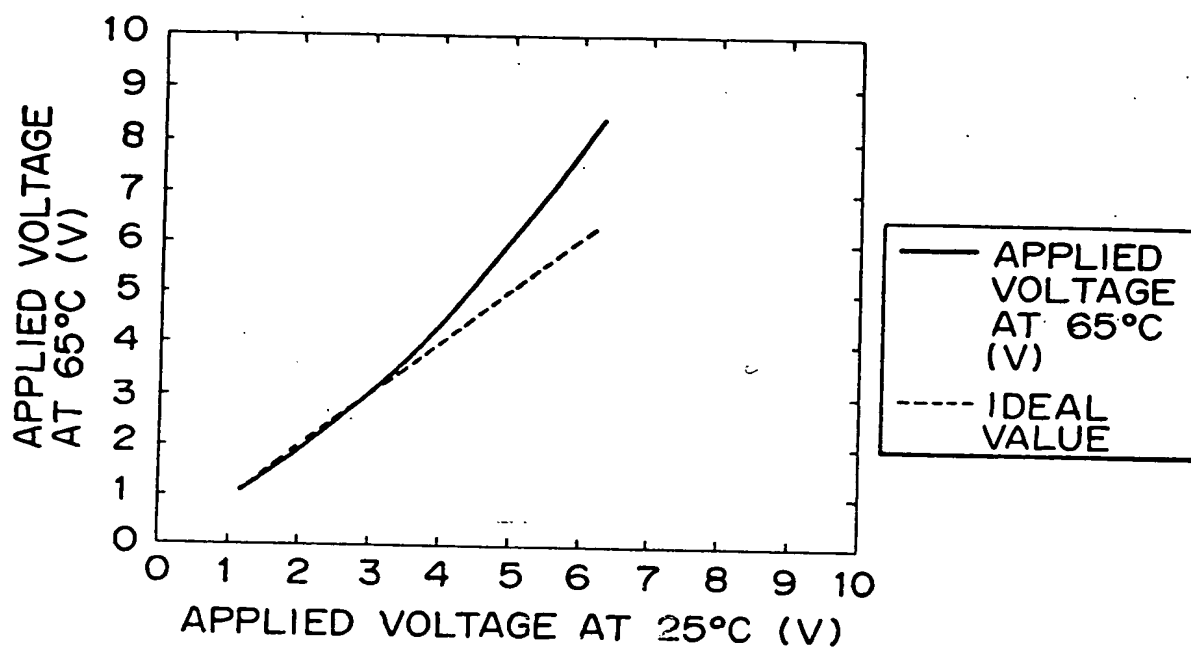


FIG. 31



# FIG. 32



# FIG. 33

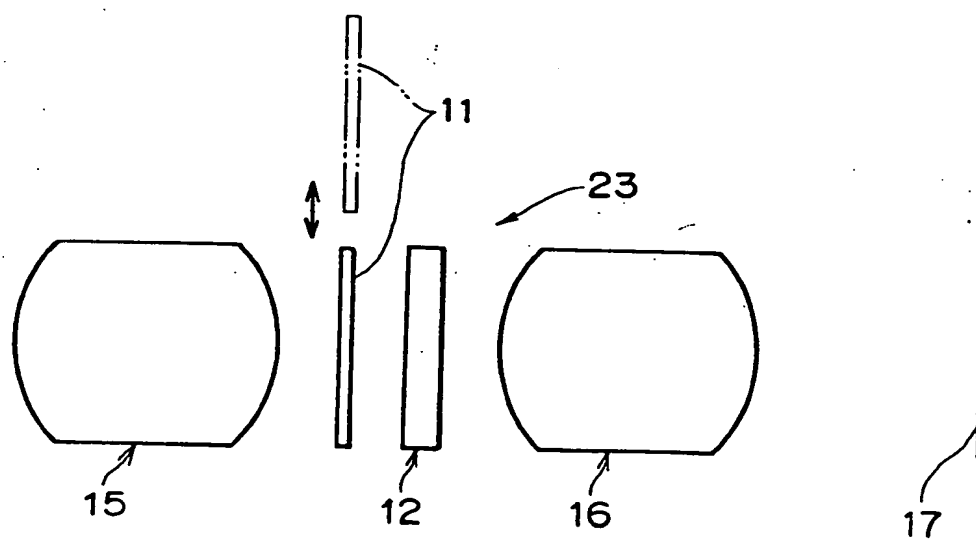


FIG. 34

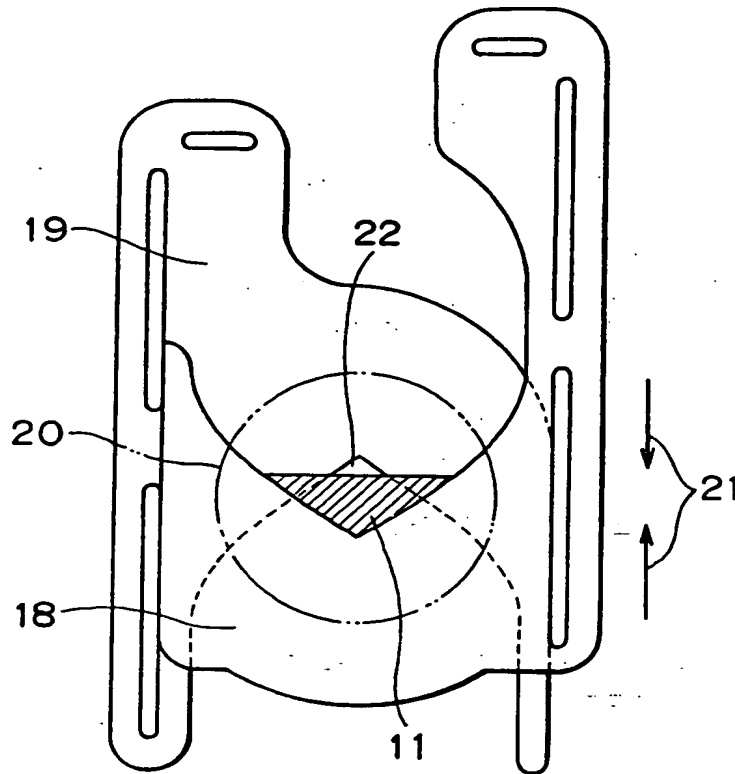


FIG. 35A

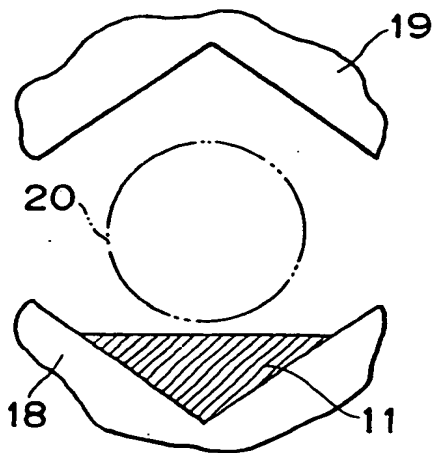


FIG. 35B FIG. 35C

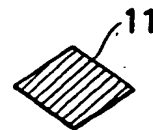
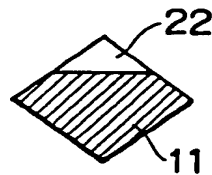


FIG. 36

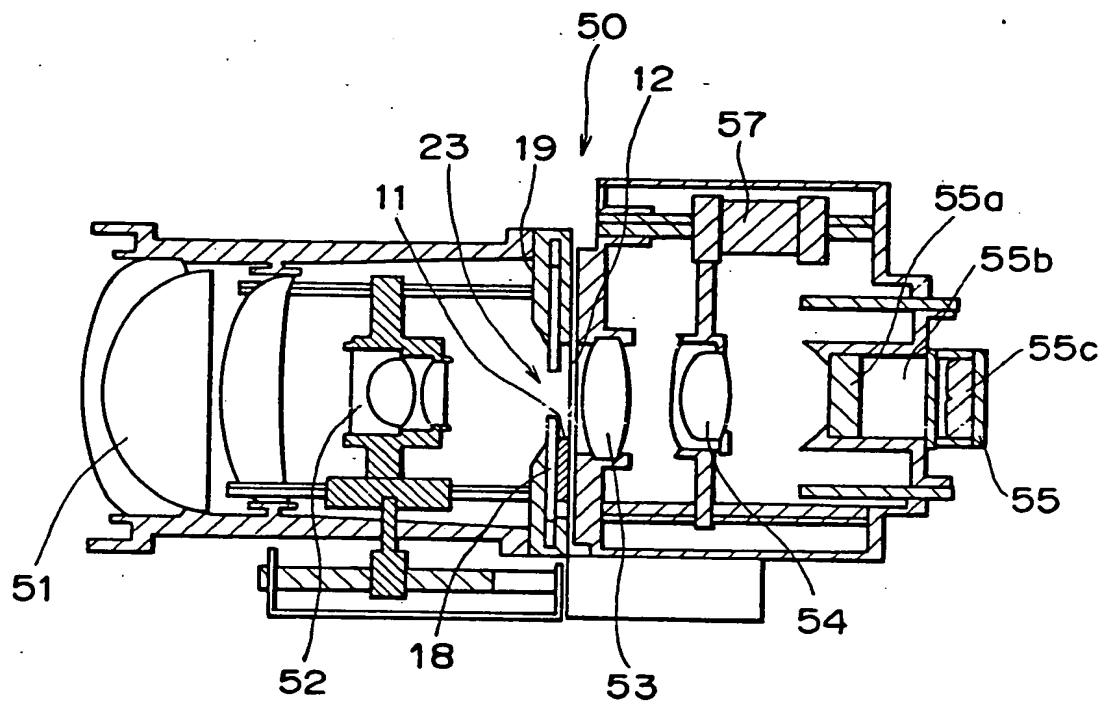
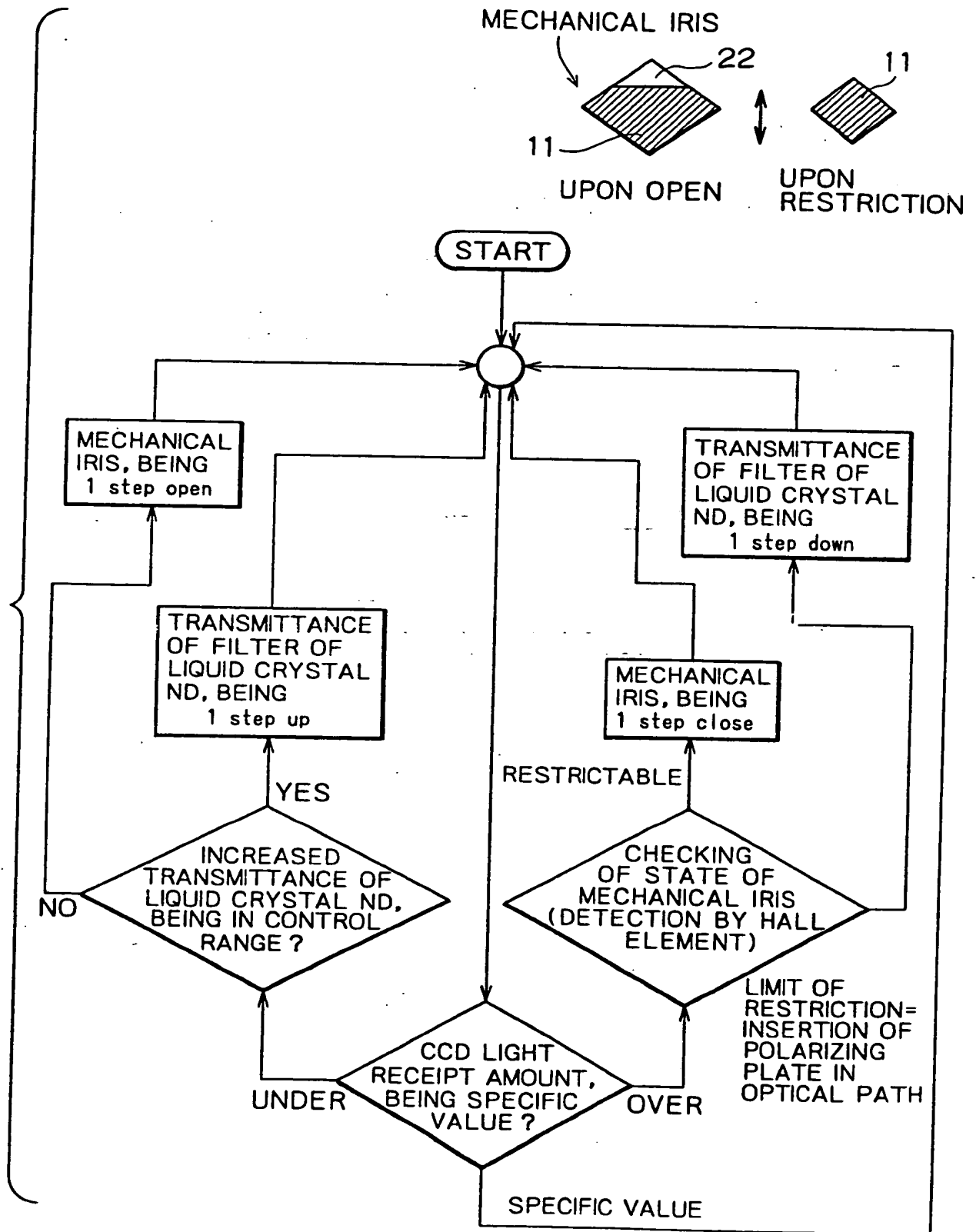


FIG. 37



# FIG. 38

